Category: Obstetrics & Gynaecology

A 29-year-old woman comes to the physician complaining of persistent dysmenorrhea and dyspareunia. Both began approximately 4 years ago. The patient has tried nonsteroidal anti-inflammatory drugs (NSAIDs) and has been on the oral contraceptive pill (OCP) for a few years without relief. The patient is brought to the operating room for laparoscopy, during which multiple lesions along her anterior and posterior cul-de-sac are noted. Many of these lesions appear like "gun-powde1 burns;' whereas others are reddish or bluish. Th patient also has thickening of her uterosacral ligaments with nodularity. In addition to dysmenorrhea and dyspareunia, which of the following conditions does this patient most likely have?

1. Basal cell carcinoma
2. Infertility
3. Lengthy menstrual cycles
4. Lung cancer
5. Menorrhagia

INCORRECT

The correct answer is 2.

This patient has a presentation that is classic for endometriosis. Endometriosis is a condition in which implants of endometrial glands and stroma are found outside of their normal location within the endometrial lining of the uterine cavity. In endometriosis, these implants are often found along several sites in the pelvis, including the anterior and posterior cul-de-sac, the tubes and ovaries, and the pelvic sidewalls bilaterally. Endometriotic implants have also been found in the lung and kidney. The classic triad of findings in endometriosis is dysmenorrhea, dyspareunia, and dyschezia (painful defecation). Definitive diagnosis is made with laparoscopy and biopsy of the lesions. At laparoscopy, the lesions can have a number of appearances, including powder-burn lesions, red and blue lesions, fibrotic lesions, or cystic lesions. There is a strong association between endometriosis and infertility.

(Choice 1) There is no proven association between endometriosis and basal cell carcinoma.

(Choice 3) Patients with endometriosis do not tend to have lengthy menstrual cycles. In fact, many patients with endometriosis have short menstrual cycles (<28 days).

(Choice 4) There is no proven association between endometriosis and lung cancer.

(Choice 5) Patients with endometriosis typically do not have menorrhagia. In fact, patients with endometriosis tend to have a lighter menstrual flow than do women without the condition.

2. Question **1 points**

Category: Obstetrics & Gynaecology

A 33-year-old primigravid patient comes to the physician for her first prenatal visit. Her last menstrual period was 5 weeks ago, and a urine pregnancy test was positive. She has no complaints. She had an appendectomy at age 15. She has occasional migraine headaches, for which she takes acetaminophen. She is allergic to penicillin.js, Examination shows that her height is 163 cm (64 in) and
her weight is 54.5 kg (120 lb). Her vital signs are stable, and her physical examination is normal. Which of the following is the recommended amount of total weight gain for this patient during her pregnancy?

1. 5 to 15 lb
2. 15 to 25 lb
3. 25 to 35 lb
4. 35 to 45 lb
5. 45 to 55 lb

INCORRECT

The correct answer is 3.

This patient is considered to have an appropriate weight, with a BMI of 20.6. BMI is calculated by dividing the pre-pregnant weight in kilograms by the height in meters squared. Thus, with a BMI of 20.6, she is neither overweight nor underweight. In a patient of normal weight, pregnancy should be associated with a weight gain of 25-35 lb. This weight gain is composed of fetal weight, amniotic fluid, uterine growth, placenta, breast enlargement, volume expansion, and increased fat stores. Patients usually gain about 5-10 pounds in the first 20 weeks of pregnancy and then roughly I pound per week for the final 20 weeks, although a wide range of weight changes in pregnancy are still compatible with good maternal and fetal outcomes. Several studies, however, do show increased complications with weight gains that are at the extreme high or low ends.

(Choices 1 & 2) A weight gain of 5-15 pounds or 15-25 pounds is considered less than recommended for a woman of normal body weight. Certain studies have shown that too low a weight gain is associated with low birthweight infants and preterm labor. However, for women who enter the pregnancy overweight (BMI of 26-29), the recommended gain is 15-25 pounds. For obese women (BMI greater than 29), the recommended gain is 15 pounds.

(Choices 4 & 5) A weight gain of 35-45 pounds or 45-55 pounds is considered more than recommended for a woman of normal body weight. Excessive weight gain has been linked to large-for-gestational age infants and increased risk of cesarean delivery. However, for patients who enter the pregnancy underweight (BMI less than 19.8), the recommended gain is 28-40 pounds.

3. Question **1 points**

Category: Obstetrics & Gynaecology

A 59-year-oldpatient with a 2-yearhistory of metastatic breast cancer presents with the acute onset of severe low back pain. She underwent a radical mastectomy and lymphadenectomy 3 years ago. Four of seven nodes were positive at the time of her original diagnosis. One year ago she developed an asymptomatic metastasis to her right femur. On physical examination, she is in severe discomfort and finds movement extremely difficult. She has exquisite tenderness in the lumbar vertebral area, and any motion of her legs or lower back produces extreme pain. An emergent MRI reveals large lytic lesions in L3 and L4. Which of the following is the most appropriate next step in management?

1. Discuss her wishes regarding cardiopulmonary resuscitation (CPR)
2. Refer her to a pain management consultant
3. Prescribe bed rest with high-dose nonsteroidal anti-inflammatory drugs (NSAIDs)
4. Schedule her for radiation therapy to the lumbar spine
5. Schedule her for an emergency nuclear bone scan

INCORRECT

The correct answer is 4.

The presence of a large lytic lesion in the lumbar spine in a patient with metastatic breast cancer is an indication for emergency radiotherapy.

(Choices 1 & 2) Although it would be appropriate to have a pain management consultant involved in this patient's care and to discuss her wishes regarding CPR, the patient should first undergo radiation therapy while narcotic analgesics are being administered.

(Choice 3) would not be appropriate management for progressive metastatic disease.

(Choice 5) is unnecessary since an emergency MRI revealed large lytic lesions at L3 and L4.

4. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old black woman comes to the physician complaining of pelvic pain. Past medical history is significant for gonorrhea. She has had four spontaneous vaginal deliveries. She smokes 1 to 2 packs of cigarettes per day. She is 170 cm (5 feet 7 inches) tall and weighs 54.5 kg (120 pounds). Examination shows a 12-week sized uterus. Pelvic ultrasound reveals an enlarged uterus containing what appear to be several fibroids. Which of the following factors places this patient at greatest risk of having fibroids?

1. Black race
2. Cigarette smoking
3. History of gonorrhea
4. Low body mass index
5. Multiparity

INCORRECT

The correct answer is 1.

There is a well-established association between black race and the presence of fibroids. Numerous studies quote a relative risk between 1.5 and 3.5. The exact mechanism underlying this increased risk has not been proven.

(Choice 2) is associated with a decreased incidence of leiomyomas. One possible explanation for this is that cigarette smoking increases the concentrations of sex-hormone-binding globulin, thereby lowering levels of bioavailable estrogen. Elevated estrogen concentrations, as are seen in pregnancy, obesity, and certain tumors, are known to increase the incidence of fibroids.

(Choice 3) does not place this patient at greater risk for having fibroids. Neisseria gonorrhoeae is known to cause cervicitis and contribute to pelvic inflammatory disease, but it is not implicated in the pathophysiology of fibroids.

(Choice 4) is associated with a decreased risk of fibroids. Again, obese women are more likely to have fibroids, and the likely mechanism for this is an increase in bioavailable estrogens.

(Choice 5) is associated with a decreased risk of fibroids. The exact mechanism underlying this association is unknown.

5. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old woman, gravid a 2, para 0, aborta 1, at 30 weeks' gestation comes to the physician because of a decrease in fetal movements. She has felt no fetal movements the past 18-hours. Her prenatal course, prenatal tests, and fetal growth have been normal up to this point. Triple test was performed at 14-weeks and showed no abnormalities. Her first pregnancy was terminated because her fetus was diagnosed with Down's syndrome. She does not use tobacco, alcohol, or drugs. Feta l heart tones are heard by Doppler. Non-stress test is non-reactive; therefore, biophysical profile is performed and shows a score of 8. Which of the following is the most appropriate next step in management?

1. Reassurance and repeat biophysical profile in one week
2. Perform contraction stress test
3. Give steroids and repeat biophysical profile with in 24 hrs
4. Advise continuous home fetal monitoring
5. Deliver the baby immediately

INCORRECT

The correct answer is 1.

Biophysical profile (BPP) is a scoring system designed to evaluate fetal well being. It is indicated in high risk pregnancies, or in case of maternal or physician concern, decreased fetal movements, or a non-reactive NST. It includes the NST in addition to four parameters assessed by ultrasonography: 1 /Feta l tone; 2/fetal movements (3/10min); 3/fetal breathing (30/10 min); 4/amniotic fluid index, (5-20). Each of these five variables is given a score of two when present, and a score of zero when absent or abnormal. A total score of 8- 1 0 is considered normal, and should only be repeated once or twice weekly until term for high risk pregnancies.

1. In the presence of oligohydramnios (AFI <5) delivery is to be considered since it can result in umbilical cord compression and therefore fetal compromise.
2. If the score is 6 without oligohydramnios, contraction stress test should be ordered. If this latter gives non-reassuring results, delivery is usually indicated; if it gives suspicious results, repeat the next day.
3. If the score is 4 without oligohydramnios and fetal lungs are mature, delivery should be considered. If fetal lungs have not yet reached their maturity, steroids injection should be administered and BPP assessed within 24 hours.
4. If the score is <4, the fetus should be delivered.

(Choice 2) Contraction stress test is indicated when the BPP score is 6.

(Choice 3) BPP is reassuring in this patient and repeat in one week is enough.

(Choice 5) Delivery is indicated when BPP score is <4.

6. Question **1 points**

Category: Obstetrics & Gynaecology

A 64-year-old woman comes to the physician because she is “leaking” urine. She states that, over the past 3 years, she has had incontinence several times daily. She describes these episodes as small squirts of urine that come out whenever she laughs, coughs, sneezes, or engages in physical activity. Physical examination shows mild uterine prolapse and a moderate cystocele. Urine culture is negative. Postvoid residual is 25 mL (normal <50 mL) Cystometrogram is normal. Which of the following is the most likely diagnosis?

1. Detrusor instability (DI)
2. Genuine stress urinary incontinence (GSUI)
3. Neurogenic bladder
4. Pyelonephritis
5. Urinary tract infection

INCORRECT

The correct answer is 2.

Genuine stress urinary incontinence (GSUI) is caused by a change in the normal angle between the bladder and urethra such that urine is lost when there is an increase in intra-abdominal pressure (such as with physical activity, sneezing, and coughing). Physical examination often reveals pelvic organ prolapse, although it may be normal. The postvoid residual (the amount of urine left in the bladder after voiding) and cystometrogram are normal. Noninvasive treatments include Kegel exercises, behavior modification, and, for postmenopausal women, estrogen cream. Invasive therapy includes several surgical options.

(Choice 1) is characterized by sudden urgency followed by a medium-to-large loss of urine. It is caused by uninhibited bladder contraction. A cystometrogram will often demonstrate bladder contractions.

(Choice 3) is characterized by a high postvoid residual, as the patient is unable to fully empty the bladder. This patient has a normal postvoid residual.

(Choice 4) is characterized by fevers, chills, back or flank pain, and costovertebral angle tenderness on examination. This patient has none of these findings.

(Choice 5) is characterized by frequency, urgency, and dysuria. This patient has none of these findings and a negative urine culture.

7. Question

1 points

Category: Obstetrics & Gynaecology

A 13-year-old girl comes to the outpatient office complaining of bleeding irregularly for the past 3 months. She denies cramping, pain, nausea, vomiting, or diarrhea with her menstrual periods. She started breast budding 3 years ago, with development of pubic and axillary hair a year later. She underwent menarche I year ago and uses tampons regularly. She is a student at the local middle school and is doing well in her studies. Her height is 62 inches (I.57 m) and she weighs I30 lb (59 kg). On general examination, she appears well developed, well nourished, and in no distress.

General and pelvic examinations are unremarkable. If an endometrial biopsy were performed on this girl, which of the following histologic findings would be most likely seen on microscopic examination?

1. Serrated endometrial glands with inspissated secretions
2. Tubular endometrial glands with many mitoses
3. Back-to-back endometrial glands with prominent nuclei
4. Decidual reaction forming around endometrial arterioles
5. Hyperchromatism and loss of cellular polarity

INCORRECT

The correct answer is 2.

The description of this young woman, in the beginning of her reproductive life, is characteristic of anovulation with unopposed estrogen. The expected finding would be a proliferative histologic picture; therefore, tubular endometrial glands with many mitoses would be the correct finding in this case.

(Choice 1) There will not be evidence of ovulation (serrated endometrial glands with inspissated secretions, since these findings are characteristic of secretory endometrium seen in the luteal phase of a normal cycle. Secretory changes are dependent on progesterone from a corpus luteum. Since she is not ovulating, there is no corpus luteum to produce progesterone.

(Choices 3 & 5) Changes consistent with endometrial carcinoma (back-to-back endometrial glands with prominent nuclei, hyperchromism, and loss of cellular polarity essentially are never seen in a pubertal girl. Even though this girl is experiencing the effects of unopposed estrogen, the progression to malignancy takes many years.

(Choice 4) Endometrial changes of pregnancy (decidual reaction forming around endometrial arterioles would not be expected with anovulation.

8. Question

1 points

Category: Obstetrics & Gynaecology

A wealthy, 32-year-old primigravid woman at 39 weeks' gestation comes to the labor and delivery ward because of ruptured membranes. She states that 10 minutes ago, as she was walking by the hospital, she felt a large gush of fluid and has continued to leak fluid. Her prenatal course was unremarkable, except for her obesity (300 pounds) and inactive asthma, for which she has not taken medications for many years. On initial examination, she is found to have a fetus in breech

position and she is quickly brought to the operating room for primary cesarean section. The cesarean delivery is performed rapidly and without complication. Which of the follow ing characteristics is a risk factor for this patient developing a wound infection?

1. Asthma
2. High socioeconomic status
3. Obesity
4. Short duration of ruptured membranes
5. Short operative time

INCORRECT

The correct answer is 3.

This patient is at increased risk for developing a post-cesarean wound infection because of her obesity. The main risk factors are poor surgical technique, low socioeconomic status, extended duration of labor and ruptured membranes, chorioamnionitis, obesity, type 1 diabetes mellitus, immunodeficiency, corticosteroid therapy, and immunosuppressive therapy. Post-cesarean wound infections are usually caused by staphylococci or streptococci. Treatment should be directed against gram-positive organisms, with nafcillin or vancomycin if the patient is allergic to penicillins.

(Choice 1) This patient has a distant history of asthma and she has taken no medications for many years. Thus, her asthma does not increase her risk for post-cesarean wound infection. However, if she were to have more active asthma and had been taking steroids, this immunosuppression would place her at greater risk of wound infection.

(Choice 2) Low socioeconomic status, not high socioeconomic status, is a risk factor for post-cesarean wound infection.

(Choice 4) Short duration of ruptured membranes is not a risk factor for wound infection. When the membranes are ruptured for a long time, there is a greater risk for the development of both endometritis and wound infection.

(Choice 5) Short operative time is not a risk factor for wound infection. Certain studies have shown that long operative times make the patient more likely to develop postoperative infections.

9. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old woman, gravida 2, para 0, abortus 1, is at 25 weeks' gestation with a twin pregnancy. An obstetric ultrasound examination notes 30% discordance between the estimated fetal weights of the two fetuses. In addition, the largest single vertical amniotic fluid pocket is 9 cm in the sac of the

larger twin, but only 1 cm in the sac of the smaller twin. Assessment of fetal anatomy is normal in both fetuses, and bladders are seen in both twins. Which of the following statements is most likely to be true?

1. The donor twin is more likely to develop hyperbilirubinemia than the recipient twin.
2. The type of placentation is dichorionic and diamniotic.
3. The recipient twin often develops signs of volume overload.
4. The pregnancy was the result of ovulation induction agents.
5. The fetuses are of opposite gender.

INCORRECT

The correct answer is 3.

The scenario describes the clinical findings frequently noted with twin twin transfusion syndrome (TTTS). It is diagnosed by polyhydramnios (single amniotic fluid [AF] pocket >8 cm) in one sac along with oligohydramnios (single AF pocket >2 cm) in the other sac. TTTS occurs with a shared placenta when an artery from one twin delivers blood to the vein of the other. The recipient twin receives much more blood, and because of the increased volume, the recipient twin can develop volume overload. This may result in heart failure and hydropic changes.

(Choices 1,2 & 4) Because the recipient twin receives much more blood and becomes polycythemic and plethoric, the recipient twin, not the donor twin, is at higher risk for hyperbilirubinemia. Such placental vascular anastomoses occur with high frequency only in monochorionic (monozygotic) twins, thus are not the result of dizygotic (dichorionic) pregnancies or from ovulation induction.

10. Question

1 points

Category: Obstetrics & Gynaecology

A 27-year old woman comes to the physician for evaluation of infertility. She and her 31-year-old husband have not been able to conceive after 12 months of unprotected and frequent intercourse. She has regular 28- day menstrual cycles and during the menstrual cycles she develops mild pelvic pain and bilateral breast tenderness. She has no pain during sexual intercourse. Her blood pressure is 128/76 mm Hg and pulse is 82/min. Physical examination is completely unremarkable. Which of the following could most likely be abnormal in this patient?

1. Serum prolactin level

2. Hysterosalpingogram
3. Mid luteal serum progesterone level
4. Serum testosterone level
5. Serum inhibin B level

INCORRECT

The correct answer is 2.

The patient described requires a workup for infertility, which is defined as a failure to conceive after one year of unprotected regular sexual intercourse. The patient has regular menstrual cycles accompanied by midcycle pelvic pain (mittelschmerz) and breast tenderness. These facts indicate that the patient is most likely ovulating, so testing for ovulation is not likely to identify the cause of infertility. Of the options listed, only a hysterosalpingogram would identify a cause of infertility that is not related to ovulatory suppression. A hysterosalpingogram is carried out by infusing radiocontrast material into the uterus under fluoroscopy. Abnormalities in the uterine cavity or fallopian tubes can be identified by this method. Causes of anatomic defects in the uterus or fallopian tubes leading to infertility include a history of pelvic inflammatory disease, endometriosis, in utero diethylstilbestrol exposure, congenital malformations and other acquired abnormalities.

(Choice 1) Elevated serum prolactin levels can suppress ovulation by inhibiting the release of GnRH from the hypothalamus resulting in amenorrhea. Hyperprolactinemia is typically associated with galactorrhea.

(Choice 3) A mid-luteal serum progesterone level is used to test for ovulation. The corpus luteum produces progesterone following ovulation resulting in increased serum progesterone levels.

(Choice 4) Increased serum androgen levels can suppress ovulation by suppressing GnRH as well as FSH release by feedback inhibition. Patients with elevated testosterone levels may demonstrate hirsutism, acne and virilization. Patients with polycystic ovary syndrome are typically anovulatory due to excessive serum androgen levels.

(Choice 5) A serum inhibin B level can be used to determine ovulatory reserve. Inhibin B levels will be decreased in older women who have a decreased capacity to ovulate.

11. Question **1 points**

Category: Obstetrics & Gynaecology

A 31-year-old woman, gravida 4, para 2, abortus 1, was seen at the outpatient clinic with a chief complaint of missing her menstrual period. She had been using barrier methods of contraception. Her most recent pregnancy ended in a spontaneous first trimester loss requiring dilation and curettage. Her two previous successful pregnancies were unremarkable, resulting in spontaneous-onset labor at term, followed by uncomplicated spontaneous vaginal deliveries of healthy neonates

who are alive and well. Her last menstrual period was June 10. A qualitative serum β-human chorionic gonadotropin (β-hCG) test had positive results. Assuming her usual cycle length is 32 days, which of the following is her most likely due date?

1. March 12
2. March 17
3. March 21
4. November 13
5. November 17

INCORRECT

The correct answer is 3.

A good menstrual history is essential for calculating the estimated due date. Nägele's rule is a convenient method that uses the last menstrual period to calculate an estimated due date. Assuming a 28-day menstrual cycle, 3 months are subtracted from, and 7 days are added to, the date of the last normal menstrual period. This would result in an estimated due date of March 17 **(Choice 2)**. However, adjustments must be made for cycles that are longer or shorter than 28 days. In the given scenario, the cycle length was 4 days over 28 days; therefore, ovulation took place 4 days later than the usual day 14, thus moving the due date 4 days forward.

(Choices 1,4 & 5) Instead of subtracting 3 months and adding 7 days, in this case one would need to subtract 3 months and add 11 days, thus yielding an estimated due date of March 21. March 12, November 13, and November 17 are therefore incorrect.

12. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-oldwoman comes to the emergency department because of abdominal pain and vaginal spotting. Her temperature is 37.0 C (98.6 F), blood pressure is 110/70 mm Hg, pulse is 90/min, and respirations are 14/min. Examination shows scant blood in the vagina and right adnexal tenderness. Hematocrit is 40%. Platelet count is 200,000/mm^3 Serum human chorionic gonadotropin is 4000 mIU/dL. Aspartate aminotransferase is 110 U/L. Creatinine is 0.7 mg/dL Pelvic ultrasound shows no evidence of an intrauterine pregnancy but does reveal a right adnexal mass with features consistent with ectopic pregnancy. Which of the following makes this patient ineligible for methotrexate treatment of her ectopic pregnancy?

1. Aspartate aminotransferase of 110 U/L

2. Blood pressure 110/70mm Hg
3. Creatinine of 0.7 mg/dL
4. Hematocrit 40%
5. Platelet count of 200,000/mm^3

INCORRECT

The correct answer is 1.

Methotrexate, an inhibitor of the enzyme dihydrofolate reductase, can be used in certain cases to treat ectopic pregnancy. This enzyme is essential for the eventual production of purine and pyrimidine subunits of nucleic acid. By blocking this enzyme, methotrexate destroys the rapidly dividing cells of the ectopic pregnancy. However, certain patients are not considered eligible for methotrexate treatment. Many physicians consider this therapy contraindicated if the ectopic pregnancy has a certain size (e.g., greater than 3.5 cm), has an elevated hCG value (e.g., greater than 15,000 mIU/dL), or has cardiac activity. However, these criteria do vary depending on the institution and physician. Also, methotrexate can cause bone marrow depression as well as hepatotoxicity and nephrotoxicity. Therefore, patients with anemia, leukopenia, thrombocytopenia, elevated liver function tests, or elevated creatinine levels are also considered ineligible for methotrexate treatment. This patient has an elevated liver function test: her aspartate aminotransferase level is 110 U/L.

(Choices 2,3,4 & 5) A blood pressure of 110/70 mm Hg, a creatinine of 0.7 mg/dl, a hematocrit of 40%, and a platelet count of 200,000/mm^3 are all normal, and would not constitute a contraindication to methotrexate treatment in this patient.

13. Question **1 points**

Category: Obstetrics & Gynaecology

A premenopausal, 48-year-old woman undergoes a routine mammographic screening. Physical examination is normal. Mammography identifies a suspicious focus with clustered microcalcifications located deeply in the lateral upper quadrant of the right breast. No abnormality can be detected in this area on breast examination. Which of the following is the most appropriate next step in diagnosis?

1. Mammographic reexamination in 1 year
2. Ultrasonography
3. Biopsy guided by mammographic localization
4. Fine-needle aspiration cytology

5. Large needle (core needle) biopsy

INCORRECT

The correct answer is 3.

With widespread use of mammographic screening for breast cancer, radiologic detection of breast lesions that cannot be identified by palpation is increasingly common. The next steps in the diagnostic tree depend on whether the lesion is considered “suspicious” on radiologic grounds. Clustered microcalcifications, spiculated densities, and parenchymal distortions are suspicious for malignancy. A stereotactic biopsy is probably the most appropriate approach to nonpalpable lesions with high index of suspicion. With this procedure, a biopsy needle is inserted into the lesion under mammographic guidance, and a core of tissue can be removed for pathologic examination.

(Choice 1) is not appropriate for nonpalpable breast lesions with either a high or low index of suspicion. Mammographic re-evaluation within 3-6 months is acceptable for nonpalpable lesions that appear benign on mammograms.

(Choice 2) is principally used to determine whether a breast lesion is solid or cystic. In this example, the presence of microcalcifications makes the lesion highly suspicious, which warrants pathologic examination (i.e., biopsy).

(Choice 4) is a practical technique with excellent diagnostic accuracy if used by an experienced pathologist. Cells are aspirated by inserting a small (22-gauge)needle into the lesion. The cells are then smeared onto glass slides and examined microscopically after appropriate staining. This technique cannot be used, however, if the lesion is nonpalpable.

(Choice 5) extracts a core of tissue by using a large-bore needle inserted into the lesion. As with the fine-needle aspiration technique, it may not be applied to nonpalpable breast lesions.

14. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old woman who is 40 weeks pregnant comes to the maternity unit in active labor. She states that she has painful genital blisters and ulcers, which she has experienced intermittently in the past. Pelvic examination reveals exquisitely tender vesicles and ulcers on her labia and vagina consistent with an active genital herpes infection. She is advised by the obstetrician that she should undergo a primary cesarean section delivery because of the increased risk of fetal infection via passage through an infected birth canal. She is mentally competent and tells the obstetrician that she refuses to have a cesarean sec- tion because her mother died during a surgical procedure. Although the doctor explains the risks of a vaginal delivery, she still refuses. The obstetrician should do which of the following?

1. Allow a vaginal delivery

2. Obtain a court order to perform the cesarean delivery
3. Perform the cesarean section without her consent
4. Obtain the consent of the husband to perform the cesarean delivery
5. Refer her to another physician

INCORRECT

The correct answer is 1.

The physician should allow the patient to deliver her infant vaginally. Although the infant may contract herpes, the mother can refuse the cesarean section because competent adults have the right to refuse medical or surgical treatment.

(Choice 2) In this scenario, the fetus has no legal rights, the mother is the patient, and a court will not order a surgical procedure against the patient's will. Only the patient can consent to her own surgery. Although the risks of a cesarean are low, they can be major, including life-threatening.

(Choice 4) No one, including a husband, can consent to surgery for another person.

(Choice 3) Performing the cesarean without her consent is legally considered "assault and battery" and is ethically not a viable option.

(Choice 5) The physician has the right to refuse treatment and to refer her to another physician; however, this will not solve the problem.

15. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old woman comes to your office for re-evaluation of her birth control method. She wants her intrauterine device (IUD) removed because it is causing her pelvic pain. She wants to be placed on oral contraceptive pills (OCPs). She has had hypertension for the past five years controlled with hydrochlorothiazide and atenolol. She has a family history of diabetes mellitus and ovarian carcinoma. Her body mass index (BMI) is 34 kg/m2. Physical examination is unremarkable. If she starts taking oral contraceptive pills, which of the following statement is most correct?

1. She is at risk of endometrial cancer
2. Her hypertension may worsen
3. She will develop benign breast disease
4. She will become diabetic
5. She is at risk of ovarian cancer

INCORRECT

The correct answer is 2.

Oral contraceptive pills (OCPs) offer both risks and benefits. The risks associated with OCP use include venous thromboembolism, stroke, myocardial infarction, breast cancer, cervical cancer, triglycerides, hypertension and worsening of diabetes. The relative risk of developing hypertension in patients taking OCPs is 1.8. compared to non-users, and patients with pre-existing hypertension are likely to experience a mild increase in blood pressure. The mechanism of t BP involves sodium and water retention. OCP use decreases the risk of endometrial cancer, ovarian cancer, pelvic inflammatory disease, and ectopic pregnancy.

(Choices 1 & 5) OCP use decreases the risk of endometrial and ovarian cancer.

(Choice 3) The incidence of benign breast disease decreased with OCP use.

(Choice 4) OCPs have been shown to cause a mild increase in insulin resistance. However, OCPs have not been shown to precipitate diabetes in non-diabetic patients.

16. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old G1P1 woman requests contraception after delivering a healthy baby three weeks ago. She does not want to get pregnant for at least one year. She has no medical problems and does not take any medication. She does not use tobacco, alcohol or drugs. Physical examination shows no abnormalities. Which of the following is the most preferred method of contraception you can advise for this patient?

1. Tubal ligation
2. Combined estrogen-progestin oral contraceptives
3. Coitus interruptus
4. Progestin-only oral contraceptives
5. No contraception needed while nursing

INCORRECT

The correct answer is 4.

Lactation alone causes anovulation and therefore some degree of contraception because the high prolactin levels inhibit the release of GnRH from the hypothalamus. Lactation, however, is not considered a reliable form of birth control as ovulation can resume while a mother is still breastfeeding. Contraceptive methods that can be used in the postpartum period include sterilization, barrier methods, intrauterine devices and progestin-only oral contraceptives. Progestin-only oral contraceptives are the preferred hormonal contraceptives in lactating

women as they do not affect the volume or composition of milk produced by the mother, they have no known effects on the infant and they do not carry the risk of venous thrombosis associated with combination pills.
(Choice 1) Tubal ligation is an acceptable form of birth control following delivery, but the patient described states that she only desires contraception for one year.
(Choice 2) Combined contraceptive pills may decrease milk production and pass into the milk. The effects of combination oral contraceptive use on the breastfeeding infant have yet to be determined.
(Choice 3) Coitus interruptus (withdrawal prior to ejaculation) has very high failure rate and is not considered an effective form of birth control under any circumstances.

17. Question **1 points**

Category: Obstetrics & Gynaecology

A 42-year-old woman comes to the physician because of irregular vaginal bleeding. She has a normal menstrual period every 29 days that lasts 3-4 days. Then, a few days after the cessation of her normal menses, she has a “second period” that lasts 1-2 days. Physical examination is unremarkable, including a normal pelvic examination. Urine hCG is negative. Endometrial biopsy suggests the presence of an endometrial polyp. Pap smear is within normal limits. Office hysteroscopy reveals a 2-3 cm endometrial polyp at the fundus. Which of the following is the most appropriate next step in management?

1. GnRH agonist therapy
2. Medroxyprogesterone acetate therapy
3. Hysteroscopic polypectomy
4. Total vaginal hysterectomy
5. Total abdominal hysterectomy

INCORRECT

The correct answer is 3.

This patient has an endometrial polyp. Endometrial polyps are localized, hyperplastic overgrowths of glands and stroma that project out from the endometrial surface. The most common symptoms are irregular bleeding and postmenopausal spotting, although many are asymptomatic. Polyps may be diagnosed on the basis of an endometrial biopsy. Office hysteroscopy or sonohysterogram (an ultrasound performed while the endometrial cavity is distended with saline) may also be used to diagnose polyps. This patient has a symptomatic polyp (i.e., the polyp is causing irregular bleeding). The management of a symptomatic polyp

involves removal with a hysteroscopic polypectomy (polypectomy performed with hysteroscopic guidance). If a dilation and curettage is performed without a hysteroscopy, the polyp could be missed.
(Choice 1) is used to treat several gynecologic conditions, including adenornyosis, endometriosis, and leiomyomas. To understand the mechanism of action of the GnRH agonists, one must understand that the hypothalamus normally produces GnRH in a pulsatile fashion. These pulses of GnRH stimulate the pituitary to produce FSH and LH, which then act on the ovary. When GnRH is given in a continuous fashion, as it is in GnRH agonist therapy, FSH and LH production by the pituitary decreases. Although GnRH agonists are useful in the treatment of the aforementioned conditions, they are not appropriate in the management of an endometrial polyp.
(Choice 2) is commonly used as a birth control method and as a method to reverse endometrial hyperplasia. The depot form of medroxyprogesterone acetate (DMPA) is given to women as an intramuscular injection. It inhibits ovulation through its effect on the hypothalamus. Medroxyprogesterone acetate is also given to women with neoplastic or proliferative disorders of the endometrium. It is not used in the treatment of endometrial polyps.
(Choices 4 & 5) Total vaginal hysterectomy or total abdominal hysterectomy would not be the most appropriate next step in the management of this patient. These procedures are too drastic for this patient's problem. This patient has irregular bleeding with an obvious source (i.e., the polyp). To take out this patient's entire uterus with a hysterectomy is not indicated at this point. The correct next step is the hysteroscopic polypectomy.

18. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-old gravida 3, para 2 is admitted to the hospital at 31 weeks' gestation with painful uterine contractions. Her cervix is initially 3 cm dilated. Magnesium sulfate is started. Over the next 5 hours, she progresses to full dilation. After a l-hour second stage, she delivers a 2013-g (4-lb, 7-oz) newborn. In the neonatal intensive care unit, the infant develops respiratory distress and pneumonia. Over the following days the infant develops septicemia. Preliminary blood cultures demonstrate gram-positive cocci in chains. Treatment with which of the following would most likely have prevented this neonatal outcome?

1. Folic acid
2. Gentamicin
3. Naloxone
4. Oxytocin
5. Penicillin

INCORRECT

The correct answer is 5.

This infant most likely has sepsis due to Group B streptococci (GBS). GBS are a part of the normal flora of many women. During pregnancy, as many as 20 to 40% of women will be colonized with GBS. Most neonates born to colonized mothers will not develop infection with GBS; however, approximately 1 to 4% will. The likelihood of infection is increased if the mother has preterm labor and delivery (18 hours), or intrapartum temperature greater than 100.4 F. Two primary methods are used to determine which women should receive antibiotics during labor. The first method is based on five risk factors: 1) history of a GBS-affected neonate; 2) urine culture with GBS; 3) preterm labor (<37 weeks);4) membranes ruptured for greater than 18 hours in labor; and 5) temperature greater than 100.4 F in labor. A woman with any one of these five risk factors should receive antibiotics. The second method is based on screening, with pregnant women being screened for GBS at 35-37 weeks with a culture of the vagina, perineum, and anus. In this patient, however, labor and delivery occurred at 31 weeks' gestation. Treatment with penicillin may have prevented the neonate from developing GBS sepsis.

(Choice 1) is a supplement that women should take preconceptionally and during pregnancy to help prevent neural tube defects. This neonate does not have a neural tube defect.

(Choice 2) is an antibiotic that is effective in the treatment of gram-negative bacteria. As this infection was caused by a gram-positive coccus, gentamicin would not be the drug of choice.

(Choice 3) is an opioid antagonist. It is given to neonates who demonstrate signs of depression after the laboring mother have been treated with narcotics. This infant has no signs of narcotic depression; therefore, naloxone would not be indicated.

(Choice 4) is given to women to induce or to augment labor. It can also be given postpartum to assist in uterine contractions in the case of atony and postpartum hemorrhage. This patient is preterm and has no indication for early delivery; therefore, oxytocin would not be indicated.

19. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old primigravid woman presents for a pre- natal visit at 32 weeks' gestation. She complains of a severe headache and epigastric pain for 24 hours. The headache is not relieved by acetaminophen. The epigastric pain is unrelieved by antacids. Her blood pressure (BP) today is 165/115 mm Hg. A urine dip- stick test shows 3+ proteinuria. Her blood pressure on her first prenatal visit at 12 weeks' gestation was 120/70 mm Hg. She experienced severe nausea and vomiting during the first trimester, requiring antiemetic treatment, but her total pregnancy weight gain has been 22 pounds. She has taken thyroid replacement medication after undergoing iodine 131 (^{131}I) treatments for Graves disease 5 years ago. Which of the following medications would be indicated in the treatment of this patient?

1. Phenytoin
2. Magnesium sulfate
3. Terbutaline
4. Progesterone
5. Indomethacin

INCORRECT

The correct answer is 2.

Hypertensive disorders of pregnancy are among the main causes of maternal mortality in the United States and require a sustained blood pressure (BP) above 140/90 for diagnosis. This patient's findings meet the criteria for severe preeclampsia. This includes the BP criteria (>160/110) and the proteinuria criteria of more than 3+ protein. In addition, the symptoms of persistent headache and epigastric pain support the concern regarding severe preeclampsia. The management priorities in this scenario are stabilization of the mother (by lowering her BP with hydralazine or labetalol to diastolic values between 90 and 100), prevention of seizures (using intravenous magnesium sulfate), and then prompt delivery.

(Choice 1) is an anticonvulsant used in nonpregnant patients but is not appropriate in pregnant women.

(Choices 3 & 5) Terbutaline and indomethacin are tocolytics and would be contraindicated in this patient, who needs to be delivered.

(Choice 4) administration has been used for prevention of idiopathic preterm labor but has no demonstrable indication in severe preeclampsia.

20. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old primigravid woman at 35 weeks' gestation comes to the physician complaining of a severe frontal headache that has not improved with acetaminophen. She also notes changes in her vision over the past 12 hours. Within the past 6 hours, she has developed constant epigastric pain. Her temperature is 37.0 C (98.6 F), blood pressure is 150/90mm Hg, pulse is 88/min, and respirations are 12/min. Examination shows moderate to severe edema in the face, hands, and feet. Urinalysis shows 3+ proteinuria. Which of the following is the outcome of most immediate concern in a patient with these signs and symptoms?

1. Eclampsia
2. Hepatitis

3. Migraine
4. Myocardial infarction
5. Systemic lupus erythematosus

INCORRECT

The correct answer is 1.

This patient has the constellation of signs and symptoms that are consistent with severe preeclampsia: hypertension, edema, and proteinuria. Her headache, visual changes, and epigastric pain indicate that her condition is severe and troublesome, because these symptoms often precede the development of convulsions (eclampsia). The management of severe preeclampsia is delivery of the fetus, as this is the only way the disease process will resolve. Magnesium sulfate should be started immediately and continued for 24 hours postpartum to prevent eclampsia.

(Choice 2) can present with epigastric or right upper quadrant pain. However, this patient has a variety of other signs and symptoms that make severe preeclampsia the diagnosis, and eclampsia the most immediate concern.

(Choice 3) can present with headache and visual changes. Again, however, this patient also has elevated blood pressure, edema, proteinuria, and epigastric pain. This constellation of symptoms is more consistent with preeclampsia than with migraine.

(Choice 4) occurs during pregnancy at a rate of less than 1 in 10,000. This would not be of most immediate concern in this patient.

(Choice 5) can present with hypertension and proteinuria. However, this patient has these findings as well as other signs and symptoms that make eclampsia a more immediate concern.

21. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman comes the physician for an annual examination. She has no complaints but is interested in becoming pregnant. She has had type 1 diabetes mellitus for the past 9 years, for which she takes insulin daily. She does not smoke or drink alcohol. Examination is unremarkable, including a normal pelvic examination. Urine hCG is negative. When should management and counseling regarding fetal anomalies take place with this patient?

1. Prior to conception
2. In the first trimester
3. Prior to an 18-weekultrasound

4. After an 18-weekultrasound
5. In the third trimester

INCORRECT

The correct answer is 1.

Women with type 1 diabetes mellitus are at increased risk of having offspring with congenital malformations. Various studies have shown that these fetuses are at a two- to six-fold increased risk compared with normal pregnancies. Anomalies commonly found in infants of diabetic mothers (IDM) include those of the cardiac, renal, and central nervous systems. Sacral agenesis, the most characteristic anomaly of diabetic embryopathy, is found 200-400 times more commonly in IDM. Most of these anomalies arise during the first 7 weeks of gestation as the fetal organs are forming. Women at this stage of pregnancy often do not yet know that they are pregnant. Therefore, it is essential that women with type 1 diabetes be counseled regarding fetal anomalies prior to conception. Good glycemic control prior to conception decreases the risk of spontaneous abortions and congenital malformations and increases the likelihood of good pregnancy outcomes. Folic acid (4 mg/day) may help prevent neural tube defects in overt diabetics.

(Choice 2) If women with type 1 diabetes are given management and counseling in the first trimester regarding fetal anomalies, then it is likely that the window of opportunity to attain good glycemic control during organogenesis will be missed. Again, organ formation and development occur during the first 7 weeks of pregnancy. Many patients do not realize they are pregnant until after 7 weeks' gestation. Also, those who do present prior to 7 weeks may have difficulty in achieving good glycemic control in a short time span. Therefore, good glycemic control will ideally be achieved preconceptionally.

(Choices 3,4 & 5) A woman with type 1 diabetes should have an ultrasound at around 18 weeks to evaluate for anomalies. However, waiting until just prior to or after an 18-week ultrasound or until the third trimester is too late to counsel the patient regarding fetal anomalies.

22. Question

1 points

Category: Obstetrics & Gynaecology

A 33-year-oldwoman presents to the physician because of a malodorous vaginal discharge that has been present for the past 3 days. She has no vaginal or vulvar irritation, and has no urinary complaints. Pelvic examination demonstrates a copious, gray discharge with a pH of 5.0.When I drop of potassium hydroxide (KOH) is added to a sample of the discharge there is an intense amine odor. A normal saline wet preparation is performed that demonstrates epithelial cells whose borders and nuclei are obscured by the presence of bacteria. Which of the following is the most likely pathogen?

1. Candida albicans
2. Chlamydia trachomatis
3. Gardnerella vaginalis
4. Lactobacillus species
5. Trichomonas vaginalis

INCORRECT

The correct answer is 3.

There is still an incomplete.ss, understanding of the exact pathophysiology underlying bacterial vaginosis (BV). However, it is believed that an increase in the levels of anaerobic bacteria coupled with overabundance of Gardnerella vaginalis is involved. The symptoms of BV include vaginal odor and an increased vaginal discharge. Local discomfort is uncommon. Physical examination will often demonstrate a copious vaginal discharge that has a pH greater than 4.7. There will be an intense, amine (fishy) odor when potassium hydroxide (KOH) is added to the discharge (a positive “whiff test”). Finally, the normal saline wet preparation is characterized by “clue cells” (epithelial cells whose borders and nuclei are obscured by the presence of bacteria). The treatment is with metronidazole.

(Choice 1) is the causative organism-e, of yeast infections. These infections are characterized by a thick, “cottage cheese” vaginal discharge. Physical examination reveals the vaginal discharge, as well as evidence of local inflammation. The KOH preparation shows pseudohyphae. This patient has findings consistent with BV and not yeast infection.

(Choice 2) is the causal organism for chlamydial cervicitis. Chlamydia infection is characterized by a vaginal discharge with local irritation. Physical examination will often demonstrate a mucopurulent cervical discharge and an erythematous and friable cervix. The normal saline wet preparation usually shows the presence of numerous white blood cells.

(Choice 4) Lactobacillus species are considered normal inhabitants of the vaginal flora. It is believed that the replacement of Lactobacillus species by Gardnerella vagina/is and other bacteria leads to BV.

(Choice 5) Trichomonas vagina is causes trichomoniasis, which is characterized by vaginal and vulvar irritation. On normal saline wet preparation, Trichomonas vaginalis will be seen as a motile, flagellated organism, somewhat larger than a white blood cell.

23. Question

1 points

Category: Obstetrics & Gynaecology

A 23-year-old woman, gravid a 2, para 1 , at 38 weeks’ gestation was admitted to the delivery room for management of labor. On admission 6-hours ago, the patient was in the active phase of labor and the cervix was 4 cm dilated. She was then placed under external tocometer and epidural

anesthesia. Contractions were regular, occurring 2-3 minutes apart and lasting 40-60 seconds. She progressed well to 7 cm. However, she has remained at 7 cm the past 4-hours. The fetus is in the Left Occipito Anterior (LOA) position and at + 1 station. Internal pelvic assessment shows prominent ischial spines. Electronic fetal heart monitoring shows 140 bpm with normal beat-to-beat and long term variability. Prenatal ultrasound at 37-weeks showed no abnormalities. Which of the following is the most likely cause of this patient's anomaly of labor?

1. Inlet dystocia
2. Midpelvic contraction
3. Macrosomic baby
4. Hypotonic uterine contractions
5. Injudicious analgesia

INCORRECT

The correct answer is 2.

This patient has an arrest disorder of dilation because cervical dilation has been the same for 4 hours (more than 2). Arrest disorder can also be of descent when the descent has not progressed for more than 1 hour. It can be caused by hypotonic contractions, conduction anesthesia, excessive sedation, cephalopelvic disproportion or malpresentation. In the present case, the arrest is resulting from a midpelvic contraction indicated by the prominence of the ischial spines.

(Choice 1) The descent of the presenting part is at +1, indicating that fetus is engaged, and therefore, an unlikeness of inlet dystocia.

(Choice 3) Prenatal ultrasound revealed nothing abnormal, so the fetus is not a macrocosmic.

(Choice 4) Uterine contractions are seemingly normal in this case. Moreover, the internal pelvic assessment evidenced prominent ischial spines, making midpelvic contraction the most likely diagnosis.

(Choice 5) The patient was placed under epidural anesthesia in the active phase, so it is unlikely that it is the cause of the arrest. Anesthesia may cause a decrease in the strength of uterine contractions' if it is administered in the latent phase.

24. Question

1 points

Category: Obstetrics & Gynaecology

A 30-year-old female delivers a term male infant with signs of thyrotoxicosis. Prior to the pregnancy, she was surgically treated for Graves's disease and was prescribed hormone replacement therapy in the form of levothyroxine 0.25 mg daily. Levothyroxine was maintained during pregnancy and

thyroid hormone levels were monitored and maintained within the reference range. Which of the following is the most likely cause of the neonate's condition?

1. Levothyroxine therapy
2. Active thyroid tissue in the mother secreting thyroid hormone
3. Persistence of thyroid stimulating immunoglobulin in the mother
4. Inadequate surgery with persistence of thyroid tissue post-operatively

INCORRECT

The correct answer is 3.

In many patients with Graves disease, the circulating levels of thyroid stimulating immunoglobulin (TSI) remain as high as 500 times the normal value for several months following thyroidectomy. These IgG autoantibodies cross the placenta and can cause thyrotoxicosis in the fetus and the neonate by directly stimulating the fetal thyroid gland. Neonatal thyrotoxicosis is an uncommon clinical entity characterized by goiter, tachypnea, tachycardia, cardiomegaly, restlessness, diarrhea and poor weight gain in the infant typically within 1-2 days following delivery.

(Choice 1) Levothyroxine does not cross the placenta to a significant degree.

(Choices 2 & 4) This patient has been euthyroid since her thyroidectomy. This has been demonstrated by several thyroid hormone tests. The presence of excess hormone due to ectopic or residual tissue is not likely given her euthyroid state.

25. Question **1 points**

Category: Obstetrics & Gynaecology

A 21 year-old gravid a 1 , para 0 woman comes to the office for a routine prenatal visit at 26 weeks gestation. She has no complaints. She has no significant past medical history. She does not use tobacco, alcohol, or drugs. She takes prenatal vitamins regularly, and has no known drug allergies. Her vital signs are within normal limits. Examination shows a uterine size appropriate for gestational age, and fetal heart tones are heard. One hour 50 gram oral glucose tolerance test shows a blood glucose level of 120 mg/dl. Urine culture grew 105 colony forming units/ml of E coli. This patient is at greatest risk for which of the following complications?

1. Chorioamnionitis
2. Endometritis
3. Difficult labor due to fetal macrosomia

4. Acute pyelonephritis
5. Postpartum hemorrhage

INCORRECT

The correct answer is 4.

The patient's urine culture shows evidence of infection, but the patient is asymptomatic; therefore, this is considered as a case of asymptomatic bacteriuria. A positive urine culture (> 100,000 colony-forming units per ml of a single organism in a midstream, clean catch urine sample) confirms the diagnosis. Pregnancy is a risk factor for developing urinary tract infections due to stasis of urine, owing to compression by the enlarging uterus, as well as smooth muscle relaxation caused by progesterone. Asymptomatic bacteriuria, if untreated, may progress to pyelonephritis in 30-40% cases. Pyelonephritis may cause septicemia, preterm labor and low birth weight babies; hence, it is very important to detect and treat asymptomatic bacteriuria or an overt urine infection in pregnancy. Amoxicillin, ampicillin, nitrofurantoin and cephalexin are commonly used to treat the patients.

(Choice 1) Chorioamnionitis is seen as a result of preterm labor, intrauterine instrumentation, sexually transmitted diseases and prolonged labor.

(Choice 2) Endometritis is commonly seen as a result of pelvic inflammatory disease due to STDs, infections such as tuberculosis, instrumentation of the genital tract, and after a caesarean delivery.

26. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman, gravid a 2, para 1 , at 32 weeks gestation is brought to the emergency department because of acute onset severe uterine contractions and moderate vaginal bleeding. Her first pregnancy was uncomplicated. She has a history of cocaine addiction but she is now participating in a drug rehabilitation program. Ultrasonogram performed at the 16th week showed no abnormalities and an intrauterine gestation consistent with dates. Her temperature is 37.0 °C (98.7 °F), blood pressure is 130/80 mmHg, pulse is 90/min and respirations are 15/min. Physical examination shows uterine tenderness, hyperactivity, and increased uterine tone. Fetal heart tracing shows 140/min with good long-term and beat-to-beat variability. Which of the following is the most likely diagnosis?

1. Abruptio placenta
2. Placenta previa
3. Vasa previa
4. Uterine rupture

5. Normal labor

INCORRECT

The correct answer is 1.

This patient has abruptio placenta. Abruptio placenta is a premature placental separation initiated by hemorrhage in the decidua basalis. It is one of the most common causes of antepartum hemorrhage. The diagnosis is mainly clinical although the symptoms may vary. The most common clinical finding is dark red, third trimester vaginal bleeding, which is found in 80% of cases. This bleeding can be concealed in 20% of cases. A concealed hemorrhage may delay the diagnosis of placental abruption and expose the patient and the fetus to serious complications including coagulopathy, shock and death. Therefore, the physician should keep a high index of suspicion for this condition in patients in their third trimester presenting with uterine tenderness, hyperactivity, and increased uterine tone as these may be the only symptoms of abruption. Ultrasonography detects as few as 25% of all placental abruptions. The role of ultrasound in the evaluation of antepartum hemorrhage is primarily to rule out placenta previa and not to diagnose abruptio placenta. Risk factors for abruptio placenta are:

- Maternal hypertension and pre-eclampsia
- Placental abruption in a previous pregnancy
- Trauma
- Rapid decompression of a hydramnios
- Short umbilical cord
- Tobacco use and cocaine abuse (as in the present case)
- Folate deficiency

(Choice 2) Placenta previa presents with bright red, painless vaginal bleeding in the third trimester. 20% of cases of placenta previa may be associated clinically with uterine contractions, but the uterus is typically nontender in placenta previa.

(Choice 3) Vasa previa is a rare condition in which the fetal blood vessels traverse the fetal membranes across the lower segment of the uterus between the fetus and the internal cervical os. It presents with a painless antepartum/intrapartum hemorrhage associated with rapid deterioration of the fetal heart tracing.

(Choice 4) Uterine rupture can be difficult to distinguish from abruptio placenta, especially when there is a history of cesarean section. However, the symptoms in uterine rupture are preceded by agitation, hyperventilation and tachycardia. Uterine rupture is rare and most often a problem during active labor, not during the antepartum period.

(Choice 5) Normal labor presents with regular contractions associated with cervical changes, release of the mucous plug and a “bloody show” which is a small amount of blood-tinged mucus due to ruptured cervical veins.

27. Question **1 points**

Category: Obstetrics & Gynaecology

A 17-year-old girl has not had a menstrual period for 4 months. She underwent menarche at age 11. She has been sexually active for the past year, but states she has only occasional intercourse. She states that she uses a diaphragm for contraception, but she does not always remember to use it. Her boyfriend occasionally uses a condom. A qualitative serum β-human chorionic gonadotropin test is reported back as a negative result. She is given medroxyprogesterone acetate (MPA) orally for 7 days, and she has a normal withdrawal bleed of 5 days of menstrual flow. Which one of the following statements is correct in respect to this diagnostic modality?

1. It can assess whether the patient is pregnant.
2. It will indicate whether the endometrium is estrogen primed.
3. It differentiates primary from secondary amenorrhea.
4. It can rule out a pituitary adenoma.
5. It provides no help if the response is only spotting.

INCORRECT

The correct answer is 2.

This patient meets the criteria for secondary amenorrhea, which are absence of menses for 3 months if previously menses were regular or an absence of menses for 6 months if menses were previously irregular. A negative serum β-human chorionic gonadotropin (β-hCG) test result virtually rules out pregnancy, the most common cause of secondary amenorrhea. The β-subunit is produced by only placental tissue with pregnancy or with an ovarian tumor (choriocarcinoma). The second most common cause of secondary amenorrhea is anovulation. A positive progesterone challenge test result indicates only that the patient has an adequate amount of estrogen to prepare her endometrium for ripening and shedding by progesterone. The patient can be assumed to be anovulatory.

(Choices 1 & 4) Medroxyprogesterone acetate (MPA) orally is not helpful as a pregnancy test. The only definitive way to rule out pregnancy is a negative urine or serum β-hCG test result. It also cannot rule out a pituitary adenoma, which requires a screening test with a serum prolactin level followed by a central nervous system (CNS) imaging study of the sella turcica.

(Choice 3) Primary and secondary amenorrhea can be differentiated from a good history, not from a progesterone challenge test.

(Choice 5) Even a spotting response is adequate to be a positive result.

28. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year old woman presents to her physician for advice about attempting to conceive. She has no complaints currently. Her past medical history is significant for a urinary tract infection 4 years ago. She has never had surgery. She takes no medications and has no known drug allergies. Physical examination is unremarkable, including a normal pelvic examination. Which of the following should this patient be taking daily?

1. Ampicillin
2. Caffeine
3. Folic acid
4. Nitrofurantoin
5. Vitamin A

INCORRECT

The correct answer is 3.

Numerous studies have established that periconceptional folic acid supplementation can: significantly decrease a mother's risk of having a fetus with a neural tube defect, such as anencephaly or spina bifida. The U.S. Public Health Service recommendation is that all women of childbearing age should take 0.4 mg of folic acid per day periconceptionally. Women who have previously given birth to an infant with a neural tube defect should take 4.0 mg/day periconceptionally, according to the Centers for Disease Control and Prevention.

(Choice 1) would not be recommended for this patient. Some women with chronic urinary tract infections (UTIs) do require antibiotic prophylaxis. This patient, however, had only one isolated UTI 4 years ago. Therefore, she would not be a candidate for antibiotic prophylaxis.

(Choice 2) The relationship between caffeine intake and pregnancy difficulties is controversial. Most obstetricians believe that moderate caffeine intake prior to and during pregnancy is acceptable. However, the fact that moderate intake may be acceptable does not make it recommended in the same way that folic acid is recommended periconceptionally for women.

(Choice 4) is sometimes used as antibiotic prophylaxis in patients who are susceptible to developing a UTI or pyelonephritis, e.g., those with chronic UTIs or pyelonephritis and those with Foley catheters in place. This patient had one UTI and therefore would not require daily nitrofurantoin.

(Choice 5) supplementation prior to pregnancy is probably unnecessary and possibly harmful. Some studies have shown a relationship between high amounts of daily vitamin A intake and birth defects, particularly neural crest malformations.

29. Question **1 points**

Category: Obstetrics & Gynaecology

A 37-year-old woman, gravida 3, para 3, comes to the physician complaining of worsening depression and irritability over the past several years. She states that these symptoms have been worsening since she was about 28 years old. She notes that the depression and irritability come on about 1 to 2 weeks prior to her menses and resolve completely a few days after the start of the menses. She also states that she feels swollen and develops breast tenderness, headaches, and insomnia during these times of depression. Those symptoms disrupt her day-to-day activities. She has no medical problems and takes no medications. Examination is unremarkable. Which of the following is the most likely diagnosis?

1. Endometriosis
2. Manic-depressive disorder
3. Premenstrual dysmorphic disorder
4. Recurrent situational anxiety of pregnancy
5. Schizophrenia

INCORRECT

The correct answer is 3.

This patient has symptoms that are most consistent with premenstrual dysmorphic disorder (PMDD). PMDD is characterized by psychological and somatic symptoms that develop in the luteal phase of the menstrual cycle and resolve with menses. These symptoms must be separate from a preexisting psychiatric disorder, and a thorough assessment should be made to identify any underlying psychiatric disorders prior to diagnosing PMDD. The psychological symptoms may include depression, hopelessness, anxiety, mood lability, anger, irritability, lethargy, difficulty concentrating, and appetite and sleep changes. The physical symptoms may include breast tenderness and swelling, headaches, joint and muscle pain, and weight gain. Treatment can involve lifestyle changes or psychotherapy, although fluoxetine and other serotonin-specific reuptake inhibitors (SSRIs) are considered more effective.

(Choice 1) can present with symptoms around the menses. However, these symptoms are typically pelvic pain, dyspareunia, and dyschezia. This patient has psychological and somatic complaints that are much more consistent with PMS.

(Choice 2) is characterized by episodes of intense mood elevation with grandiosity, pressured speech, and reckless behavior and depression. This patient's symptoms are confined to the luteal phase and not characterized by mood elevations.

(Choice 4) is the diagnosis given to some women who desire permanent sterilization. This patient has no complaints regarding pregnancy.

(Choice 5) is characterized by psychotic behavior, which this patient does not exhibit.

30. Question **1 points**

Category: Obstetrics & Gynaecology

A 33-year-old woman comes to the physician because she has not had a menstrual period for 6 months. Prior to this she had normal period every29 days that lasted for 4 days. She has noted some weight gain in the past few months. She has a history of hepatitis A infection 6 years ago and had an appendectomy at age 12. She takes no medications and has no allergies to medications. Her father died of acute pancreatitis 3 years ago. Her mother is alive and well with no medical problems. Which of the following is the most appropriate next step in diagnosis?

1. Amylase
2. FSH
3. β-hCG
4. Liver function tests
5. TSH

INCORRECT

The correct answer is 3.

The first step in the diagnosis of secondary amenorrhea is a pregnancy test. Secondary amenorrhea is defined as the cessation of menses for 3 months in a woman with previously regular periods or 6 months in a woman with a history of oligomenorrhea. This patient had normal periods up until the last 6 months. The most common cause of secondary amenorrhea in a 33-year-old with previously normal cycles is pregnancy. Therefore, β-hCG would be indicated as the first step.

(Choice 1) is a useful laboratory value to check in cases in which pancreatitis is on the differential diagnosis. The fact that this patient's father died of pancreatitis almost certainly has no relationship to her current amenorrhea.

(Choice 2) is a useful test in women with secondary amenorrhea after a pregnancy test, TSH, and prolactin have been checked, and after the patient's estrogen status is assessed with a progesterone withdrawal test. If the patient is found to be amenorrheic from estrogen deficiency, assessment of the FSH level allows one to distinguish between a centrally mediated deficiency (FSH low) and an ovarian deficiency (FSH high).

(Choice 4) would not be indicated in this patient as part of her workup for secondary amenorrhea. Hepatitis A is a virus that affects hepatocytes and can cause abnormal liver function tests. However, it does not cause chronic infection and almost certainly is not causing this patient's secondary amenorrhea.

(Choice 5) is an excellent test in the workup of secondary amenorrhea after pregnancy has been ruled out. Women with abnormal thyroid function can have menstrual irregularities, so a TSH is a good test for any woman with abnormal menses. However, a pregnancy test should still be done first in the evaluation of secondary amenorrhea.

31. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-old woman comes to the emergency department because of a 2-day history of fever, shaking chills and lower abdominal pain. She had an abortion at an outside clinic 3 days ago. Her temperature is 39.8 °C (103.7 °F), blood pressure is 100/65mmHg, pulse is 114/min and respirations are 26/min. Physical examination shows mild rigidity and guarding. Fundal height is at 12 weeks gestation, the adnexae are free and no mass is noted. Bimanual examination shows uterine tenderness with purulent, offensive vaginal discharge coming out of a dilated cervical os. Which of the following is the most appropriate sequence in management?

1. Cervical and blood cultures, antibiotics, vigorous and thorough curettage
2. Cervical and blood cultures, antibiotics, gentle suction curettage
3. Antibiotics, suction curettage, cervical and blood sampling
4. Cervical and blood cultures, antibiotics and close observation
5. Laparotomy and antibiotics

INCORRECT

The correct answer is 2.

Septic abortion can result from infection of retained products of conception in the case of missed, incomplete, inevitable or elective abortions. This condition is clinically characterized by fever, chills, abdominal pain and a bloody I purulent vaginal discharge. Examination shows lower abdominal tenderness and an enlarged, tender uterus with a dilated cervix. Septic abortion is a medical emergency. Broad spectrum antibiotics are given immediately after obtaining the blood and cervical I endometrial cultures. Immediate surgical evacuation of the uterine contents is then required in order to remove the infectious nidus. This is best done with gentle suction curettage. Vigorous curettage should be avoided because of the risk of uterine perforation.

(Choice 3) Cervical and blood sampling should be done prior to the administration of antibiotics and suction curettage.

(Choice 4) Cervical and blood cultures and antibiotics are indicated, but evacuation of the infected intrauterine products of conception is required to resolve the infection in much the same way that an abscess must be drained in order to resolve.

(Choice 5) Laparotomy and antibiotics may be indicated if antibiotics and suction curettage are not sufficient to resolve the infection.

32. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman presents with mouth sores, sore throat, vaginal discharge, fever, and myalgia. She has no other medical problems. She takes oral contraceptive pills. She is in a monogamous relationship and states that her partner occasionally uses barrier contraception. Physical examination reveals a temperature of 38.3 C (101.0 F), cervical and inguinal lymphadenopathy, exudative pharyngitis, and multiple ulcers on the oral mucosa, the labia, and cervix. The vaginal discharge is profuse, and Gram stain indicates many neutrophils. Which of the following is the most likely diagnosis?

1. Chancroid
2. Condyloma acuminatum
3. Herpes simplex virus
4. Lymphogranuloma venereum
5. Syphilis

INCORRECT

The correct answer is 3.

Primary herpes infection can cause systemic symptoms of fever and myalgia and can affect the pharynx, urethra, external genitalia, and cervix. Although no effective therapy is available, acyclovir is used to reduce morbidity of the disease and decrease the incidence of recurrences.

(Choice 1) does not cause systemic symptoms and leads to a soft, non-indurated, painful ulcer. The etiologic agent is Haemophilus ducreyi, which requires growth on an enriched chocolate medium. Management consists of oral erythromycin.

(Choice 2) causes characteristic large, soft, fleshy, cauliflower-like excrescences around the vulva, urethral orifice, anus, and perineum. The causative agent is the human papillomavirus (HPV). Most HPV lesions resolve spontaneously. Frequently used therapies include cryosurgery, application of caustic agents, electrodesiccation, surgical excision, and laser ablation. Topical podophyllin has also been used with some success.

(Choice 4) leads to fever, arthritis, pericarditis, painless papules, and erythema nodosum. This is a sexually transmitted infection caused by Chlamydia trachomatis strains. A frequent presenting symptom is painful inguinal lymphadenopathy. Azithromycin may be of utility in treatment.

(Choice 5) usually causes a single ulcer and does not produce exudative pharyngitis. Clinical manifestations of syphilis include primary, secondary, and tertiary syphilis. The primary chancre usually begins as a single painless papule, which rapidly becomes eroded and usually, but not always, is indurated with a characteristic cartilaginous consistency on palpation of the edge and base of the ulcer. Penicillin G is the drug of choice for all stages of syphilis.

33. Question **1 points**

Category: Obstetrics & Gynaecology

A 30-year-old female comes to the office complaining of vaginal discharge, dyspareunia and vulvar pruritus. She has a history of hypothyroidism and takes thyroid replacement therapy. She uses tobacco and alcohol every day. On examination, you notice a thin, grayish vaginal discharge and erythema and edema of the vulva and vaginal mucosa. The pH of the discharge is 6.0 and wet-mount examination reveals pear-shaped motile organisms. First line treatment is prescribed for both the patient and her partner. The patient must avoid which of the following during the treatment period?

1. Grapefruit juice
2. Alcohol use
3. Midday sun exposure
4. Thyroid supplements
5. Tobacco use

INCORRECT

The correct answer is 2.

The findings of thin vaginal discharge, erythematous vaginal mucosa, and motile pear-shaped organisms on wet-mount, are all characteristic of trichomonal vaginitis. Metronidazole is the treatment of choice for this condition. If alcohol is taken during metronidazole therapy, a disulfiram-like reaction may result in which acetaldehyde accumulates in the blood stream. This causes flushing, nausea, vomiting and hypotension. For this reason, all patients who take metronidazole should abstain from drinking alcohol.

(Choice 1) Grapefruit juice is known to inhibit the P450 system. Intake of grapefruit juice should be limited in patients taking medications which are processed by the P450 system (e.g. cyclosporine).

(Choice 3) Sun exposure should be limited while taking tetracycline, as this antibiotic can cause photosensitivity.

(Choice 4) There is no adverse interaction between thyroid supplements and metronidazole.

(Choice 5) Despite the myriad negative health consequences of tobacco use, it does not interfere with metronidazole therapy.

34. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-old, gravid a 2, para 1 woman at 30 weeks gestation comes to the ER after she noticed a sudden gush of clear fluid coming from her vagina. She has had no uterine contractions or vaginal bleeding. Her pregnancy has been uncomplicated; she has had consistent prenatal care. Vital signs are normal. Sterile speculum examination shows the cervix is minimally effaced and 2 cm dilated; there is pooling of clear fluid in the vaginal fornix, and when pressure is applied to the fundus, clear fluid comes out of the cervix. Emergency ultrasound shows a fetus of average size in the vertex presentation and an Amniotic Fluid Index (AFI) of 15. Nonstress test shows a baseline of 120 bpm and frequent accelerations. Amniotic fluid analysis shows lecithin/sphingomyelin ratio of 1.0. Which of the following is the most appropriate next step in management?

1. Amnioinfusion
2. Immediate vaginal delivery
3. Cesarean section
4. Betamethasone
5. Repair of ruptured membranes

INCORRECT

The correct answer is 4.

Rupture of the fetal membranes at any time before the onset of labor is referred to as premature rupture of membranes (PROM). When rupture occurs before term, it is known as pre term PROM (PPROM). The diagnosis of ROM is mainly clinical. The patient usually complains of either a gush or continual leakage of clear fluid from the vagina. On examination, amniotic fluid may be noted in the vagina or leaking from the cervix when the Valsalva maneuver or slight fundal pressure is applied. In this case, PPROM is the diagnosis, and amniotic fluid sampling to measure fetal lung indices is mandatory. Ultrasound examination should also be performed to detect fetal anomalies, determine gestational age and measure amniotic volume. In this case of PPROM, the pregnancy is less than 34 weeks gestational age, and the US ratio is less than 2.0; therefore, prematurity is a major concern. Steroid treatment is effective at this stage of pregnancy (between 24 and 34 weeks) in accelerating lung maturity and should be used. No tocolysis is indicated as the patient has no uterine contractions.

(Choice 1) The amniotic fluid index is normal (>5 and <25), so there is no need for amnioinfusion. It is sometimes used in oligohydramnios to prevent its complications.
(Choices 2 & 3) There are no signs of fetal distress at this point so delivery should not be expedited. The fetus would be best served by systemic corticosteroid treatment as fetal lung immaturity is associated with the neonatal respiratory distress syndrome, which is associated with increased morbidity and mortality in the fetus.
(Choice 5) Membrane repair is an investigational technique whereby the membranes are sealed by insertion.

35. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old primigravid woman at 32 weeks gestation comes to the physician because of swelling of her hands and feet. Her previous prenatal check-up was normal. Blood pressure is 150/95 mm Hg, and five minutes later following lateral rest her blood pressure is 140/95 mm Hg. Physical examination shows 2+ pitting edema of the legs and a macular eruption on the cheekbones. Optic fundi show no abnormalities. Laboratory studies are as follows:

Urinalysis: 4+ protein, RSC casts
Urine protein: 8 g/24hr
Uric acid: 5 mg/dl
BUN: 28 mg/dl
Serum creatinine: 2.1 mg/dl

Serum electrolytes, liver function tests and coagulation studies are within normal limits. A serum antinuclear antibody (ANA) test is positive in high titers. Which of the following is the most likely diagnosis?

1. Pregnancy induced hypertension
2. Chronic hypertension with superimposed pre-eclampsia
3. Glomerulonephritis
4. Hemolytic uremic syndrome
5. HELLP syndrome

INCORRECT
The correct answer is 3.
The patient presents with hypertension, proteinuria and edema, which are the hallmarks of preeclampsia. However, the gross proteinuria associated with a malar rash and a strongly positive ANA should raise suspicions for systemic lupus erythematosus (SLE). It must be

noted, however, that ANA titers may be weakly positive in normal pregnancy. The distinction between SLE and preeclampsia during pregnancy is crucial because both conditions respond to different therapeutic approaches. In fact, treating preeclampsia with corticosteroids can aggravate it.
If the patient is known to have lupus before pregnancy, the appearance of proteinuria during pregnancy may represent lupus nephritis, preeclampsia or both. Signs that favor lupus as the origin of the proteinuria include a rapid aggravation of the proteinuria, associated clinical signs of active SLE, and the presence of RBC casts in the urinalysis which indicates true nephritis rather than simple protein loss. If the proteinuria persists after delivery, renal biopsy is then indicated and will most likely be diagnostic of lupus nephritis. SLE, however, rarely presents for the first time during pregnancy.
(Choice 1) The hypertension in this patient is probably not simply pregnancy-induced because of the magnitude of proteinuria, the malar rash and the positive ANA titer.
(Choice 2) Chronic hypertension with superimposed preeclampsia is defined as hypertension that occurs before pregnancy or before 20 weeks gestation with subsequent development of proteinuria. The previous antenatal records of this patient were all normal until she presented these new symptoms, which makes this diagnosis unlikely.
(Choice 4) This patient does not have thrombocytopenia or microangiopathic hemolytic anemia, which are two hallmarks of HUS.
(Choice 5) HELLP syndrome is a variant of preeclampsia characterized by Hemolysis, Elevated Liver enzymes and Low Platelet count.

36. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old nulligravid patient calls the physician complaining of right leg pain. She states that the pain started 1 day ago and has been growing worse throughout the day. She also feels that her right leg is “bigger” than her left leg. She has no medical problems and has never had surgery. She takes the oral contraceptive pill for birth control. She is allergic to aspirin. She does not smoke. Her family history is significant for ulcer disease but is otherwise unremarkable. Which of the following is the most appropriate next step in management?

1. ○ Have the patient come in for evaluation
2. ○ Prescribe acetaminophen
3. ○ Recommend warm soaks and evaluation in 1 week
4. ○ Schedule a pelvic ultrasound
5. ○ Prescribe anticoagulants

INCORRECT

The correct answer is 1.

One of the most serious complications of the oral contraceptive pill (OCP) is deep venous thrombosis (DVT). OCPs, particularly the estrogen component, are known to make some patients hypercoagulable. Patients who are especially at risk are those with an inherited resistance to activated protein C and those with the factor V Leiden mutation. However, even in patients without these traits, the OCP can lead to an increased risk of DVT, pulmonary embolus, and cerebral thrombosis. All patients who are started on an OCP should be warned and educated regarding the symptoms of a blood clot. If leg pain and swelling develop, the main concern is DVT, and that patient must be evaluated, e.g., with duplex Doppler studies.

(Choice 2) To prescribe acetaminophen over the phone without first evaluating the patient would not be appropriate. As noted above, DVT is a major concern in women taking the OCP with leg pain and swelling. Delay could lead to propagation of a thrombus, embolism, and even death.

(Choice 3) To recommend warm soaks and evaluation in 1 week would not be appropriate. Again, this patient may have a DVT, and delay in diagnosis and treatment could result in significant morbidity or mortality.

(Choice 4) To schedule a pelvic ultrasound would be improper management. Although this patient is a woman, her complaint is leg pain and swelling. The appropriate study would be ultrasound of the leg, or another study, to evaluate for the presence of a thrombus in the lower extremities.

(Choice 5) Prescribing Coumadin would not be appropriate. The patient must be evaluated first to determine whether she has a DVT. If a thrombus is discovered, then anticoagulation would be appropriate.

37. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old woman who is a business major at a local university sees her physician because she has not had a period for the past 5 months. She knows she is not pregnant because she is not sexually active. She attained menarche at 12 years of age, but her menses always have been irregular. She also expressed concern about being at least 25 pounds overweight and volunteers that her roommate has recently lost weight and was diagnosed with hepatitis A, suggesting that maybe she could do so too. Physical examination revealed that she is 168 cm (66 in) tall and weighs 46 kg (102 lb). Her secondary sex characteristics are normal, but she appears thin and underweight. Her pelvic examination is normal. Findings of laboratory studies of serum prolactin, estradiol, and human chorionic gonadotropin (HCG) measurements are normal. Which of the following is the most likely diagnosis?

1. Turner syndrome

2. Hypogonadotropic hypogonadism
3. Polycystic ovary syndrome
4. Asherman syndrome
5. Anorexia nervosa

INCORRECT

The correct answer is 5.

The patient's height/weight discordance, as well as her misconception concerning her weight, suggests anorexia nervosa causing secondary amenorrhea.

(Choice 1) is associated with primary amenorrhea, absence of secondary sexual development, and short stature due to aneuploidy (45, X); estradiol levels are low, but follicle-stimulating hormone (FSH) levels are high.

(Choice 2) is associated with absence of secondary sexual development due to hypothalamic-pituitary insufficiency; an example is Kallmann syndrome. Estradiol levels are low, and FSH levels are also low.

(Choice 3) is associated with male pattern hair, infertility, and irregular menses. Estradiol and FSH levels are within normal limits, but luteinizing hormone (LH) level is increased.

(Choice 4) is characterized by secondary amenorrhea, the result of intrauterine synechiae following overzealous curettage. Estradiol and FSH levels are within normal limits.

38. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-oldwoman is brought to the operating room for diagnostic laparoscopy because of chronic pelvic pain and chronic right upper quadrant pain. She has had these pains for the past 2 years. Her bowel and bladder function are normal. Past medical history is significant for two episodes of gonorrhea. She drinks one beer per day. Laboratory studies show:

Urine hCG: negative
Hematocrit: 39%
Leukocyte count: 8,000/mm^3
Platelet count: 200,000/mm^3
AST: 12 U/L
ALT: 14 U/L

Intraoperatively, the patient is noted to have dense adhesions involving her fallopian tubes, ovaries, and uterus. The fallopian tubes themselves appear clubbed and occluded. A survey of her upper abdomen is remarkable for perihepatic adhesions extending from the liver surface to the diaphragm. The liver otherwise appears unremarkable. Which of the following is the most likely diagnosis for her right upper quadrant pain?

1. Alcoholic cirrhosis
2. Fitz-Hugh-Curtis syndrome
3. Hepatitis
4. Hepatocellular carcinoma
5. Wolff-Parkinson-White syndrome

INCORRECT

The correct answer is 2.

Fitz-Hugh-Curtis syndrome occurs when patients with pelvic inflammatory disease (PID) develop perihepatic inflammation and adhesions extending from the liver surface to the diaphragm. This syndrome is believed to occur in 1 to 10% of patients with acute PID. Symptoms may include right upper quadrant pain and pleuritic pain, though many cases are asymptomatic. It is believed to be caused by hematogenous dissemination or transperitoneal dissemination of Chlamydia trachomatis or Neisseria gonorrhoeae, though other organisms may be involved.

(Choice 1) is not the most likely diagnosis given that this patient's liver appears unremarkable except for the perihepatic adhesions. A cirrhotic liver usually appears fibrotic, scarred, and shrunken, although alcoholics may have an enlarged liver because of fatty infiltration. Furthermore, one beer per day is unlikely to lead to cirrhosis in an otherwise healthy 32-year-old woman.

(Choice 3) will often present as a systemic illness. Usually there are alterations in the liver function tests (ALT and AST). This patient has pelvic pain and right upper quadrant pain only, normal liver function tests, and laparoscopic findings most consistent with prior PID and Fitz-Hugh-Curtis syndrome.

(Choice 4) is one of the most common cancers in the world. Often patients who develop these tumors will have cirrhosis and significant weight loss and ascites. This patient has the perihepatic adhesions only.

(Choice 5) In Wolff-Parkinson-White syndrome, patients may develop paroxysmal supraventricular tachycardia because of the presence of an accessory muscle bundle that bypasses the AV node of the heart and produces a reentry loop. This patient has no complaints of cardiac arrhythmia.

39. Question **1 points**

Category: Obstetrics & Gynaecology

A 21-year-old nulligravid woman comes to the outpatient office for her first prenatal visit at 12 weeks' gestation by dates. A home urine pregnancy test result was positive 6 weeks ago. A pelvic examination performed today was unremarkable, with uterine size consistent with her dates. Fetal

heart tones were heard with a Doppler stethoscope at a rate of 130/min. A prenatal laboratory panel is ordered. Her rubella IgG antibody titer is found to be negative. Which one of the following recommendations would be most appropriate in managing this patient?

1. Avoid exposure to known rubella infections.
2. Avoid breastfeeding after postpartum vaccination.
3. Avoid pregnancy for 3 months after postpartum vaccination.
4. Offer genetic amniocentesis for amniotic fluid culture.
5. Provide -globulin for prophylaxis now.

INCORRECT

The correct answer is 1.

Rubella is a highly contagious viral syndrome with potentially disastrous pregnancy impact. With the presence of rubella antibodies, there is lifelong immunity and a fetus in a subsequent pregnancy is protected. Without antibodies present, as in this scenario, the fetus is susceptible. The best answer is to avoid exposure to known rubella infections.

(Choices 2,3,4 & 5) Postpartum vaccination with the live attenuated virus vaccine is appropriate but there is no need to avoid breastfeeding. Pregnancy should be avoided for 1 month, not 3 months, as in. Amniocentesis for amniotic fluid culture is an unnecessary invasive procedure in an uninfected gravida. γ-Globulin is not indicated for prophylaxis.

40. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman comes to your office at 10 weeks gestation for her first prenatal visit. Her obstetrical history is significant for a spontaneous abortion at 12 weeks gestation one year ago. She states that her mother has hypothyroidism, and she asks you to order thyroid function tests for her. She denies any symptoms, and her physical examination is unremarkable. Ultrasound reveals an intrauterine gestation with normal fetal cardiac activity. Which of the following results is most likely to be expected in this patient?

1. Normal total T4, normal TSH
2. Decreased free T4, decreased TSH
3. Increased total T4, normal TSH
4. Increased free T4, decreased TSH

5. Decreased total T4, increased TSH

INCORRECT

The correct answer is 3.

Thyroid function during pregnancy is affected by two separate mechanisms: an increase in thyroid binding globulin (TBG) concentration and stimulation of the TSH receptor by chorionic gonadotropin (hCG). An increase in circulating estrogen levels during pregnancy leads to an increase in the production of TBG, which results in an increase in the TBG-bound T3 and T4. As a result, elevated TBG leads to increased total T4 and T3, whereas free T4 and T3 remain normal. The elevated levels of hCG in pregnancy can also cause a mild stimulation of the TSH receptor, resulting in a small increase in free T3 and T4, and a mild decrease in TSH. However, these values still usually remain within the normal range. The patient in this question has no symptoms or signs to suggest abnormal thyroid function, and her pregnancy would most likely result in an increased total T4 and a normal TSH.

(Choice 1) Normal total T4 and normal TSH are characteristic of a euthyroid state, and would be found in a healthy individual who is not pregnant.

(Choice 2) Decreased free T4 and decreased TSH are characteristic of secondary or tertiary hypothyroidism. These conditions are caused by either an inadequate production of TSH by the pituitary, inadequate production of TRH by the hypothalamus, or the use of dopamine antagonist medications.

(Choice 4) A decrease in TSH is the appropriate response to increased free T4, which can occur as a result of hyperthyroid states such as Graves's disease.

(Choice 5) Decreased total T4 leads to an increased TSH in primary hypothyroidism, and can be caused by autoimmune thyroid destruction.

41. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-oldwoman comes to the physician because of vaginal bleeding. Her last menstrual period was 8 weeks ago, and a home pregnancy test 2 weeks ago was positive. She has had mild uterine cramping but is otherwise asymptomatic. Pelvic examination reveals a 10 to 12 week, nontender uterus. The remainder of the physical examination is unremarkable. Urine hCG is positive. Pelvic ultrasound reveals multiple echogenic areas in a "snow storm" pattern with no evidence of a fetus. Which of the following is the most appropriate next step in management?

1. Expectant management
2. Folic acid supplementation
3. Methotrexate therapy.

4. Dilation and evacuation

5. Laparotomy

INCORRECT

The correct answer is 4.

This patient has the signs and symptoms most consistent with a complete hydatidiform mole, which is one type of gestational trophoblastic disease. Other types include partial mole and choriocarcinoma. Patients with a complete mole often present with complaints of bleeding. Physical examination is typically significant for a uterus that is larger than the dates of the pregnancy would predict. Diagnosis is most often made by ultrasound, with the appearance of multiple echogenic areas. This pattern is usually described as a "snowstorm." Management of a complete mole is with dilation and evacuation. This effectively removes the molar tissue from the patient. These patients then need dose follow-up, with the serum hCG level being followed to ensure that there is no persistent or metastatic molar tissue.

(Choice 1) is not appropriate for a patient with a complete mole. These patients need therapy to prevent spread of the disease and/or the development of preeclampsia, hyperthyroidism, or other metabolic abnormalities.

(Choice 2) is not the next most appropriate step in management for someone with a complete mole. There is some evidence of a link between folic acid deficiency and complete mole. However, once a mole has been diagnosed, treatment is with dilation and evacuation.

(Choice 3) can be used to treat a persistent or metastatic complete mole. However, the first step in management is with dilation and evacuation.

(Choice 5) is usually not necessary for the treatment of complete mole. Occasionally, some patients will elect or require hysterectomy for definitive treatment, but most cases can be treated with dilation and evacuation.

42. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman is referred to the physician for lactation suppression after the death of her 1-month-old infant from severe sepsis. She is very depressed and complains of breast fullness and tenderness. Examination shows both breasts are warm, firm and tender to palpation. Prenatal records show no abnormalities except mild varicosities. Which of the following is the most appropriate next step in management?

1. Frequent emptying of breasts

2. Tight fitting bra and ice packs

3. Conjugated estrogen

4. Dexamethasone
5. Bromocriptine therapy

INCORRECT

The correct answer is 2.

At delivery, milk production is activated by two major mechanisms: the sudden decrease in estrogen and progesterone that, prior to delivery, interfere with the action of prolactin on lactation and the release of prolactin and oxytocin through the stimulatory effect of suckling. Prolactin is responsible for milk synthesis whereas oxytocin mediates contraction of the lactiferous glands and ducts resulting in the excretion of milk. Lactation suppression is indicated for patients such as in this case or those who do not desire to breastfeed. Lactation suppression is accomplished by use of a tight-fitting bra, avoidance of nipple stimulation or manipulation, application of ice packs to the breasts and analgesics to manage the pain. There is no role for medications in the suppression of breast milk production.

(Choice 1) Emptying of the breasts will only maintain milk production and thus, make the condition worse.

(Choice 3) Estrogen therapy was used in the past for lactation suppression but is no longer recommended because of the increased risk of thromboembolism.

(Choice 4) Dexamethasone is not indicated for lactation suppression.

(Choice 5) Bromocriptine was commonly used but is no longer FDA approved for this purpose because of the side effects. It is a dopamine agonist that acts by inhibiting prolactin secretion by the anterior pituitary thus suppressing lactation.

43. Question **1 points**

Category: Obstetrics & Gynaecology

A 14-year-oldgirl comes to the emergency department because of heavy vaginal bleeding. She states that she has been soaking 1 to 2 pads per hour for the past 24 hours. She has no medical problems and no history ot easy bleeding or bruising. Her temperature is 37.0 C (98.6 F), blood pressure is 118/76 mm Hg, pulse is 92/min, and respirations are 14/min. Pelvic examination reveals some blood in the vagina and oozing from the cervical os; it is otherwise unremarkable. Pelvic ultrasound is unremarkable. Urine hCG is negative. Hematocrit is 31%. Platelet count is 275,000/mm^3 P and PTT are within normal limits. Six hours later the hematocrit is 30%. Which of the following is the most appropriate next step in management?

1. Blood transfusion
2. Fresh frozen plasma
3. IV conjugated estrogens

4. Oral contraceptive pill

5. Platelet transfusion

INCORRECT

The correct answer is 4.

In an adolescent, many of the initial menstrual cycles will be anovulatory. Anovulatory cycles put the woman at greater risk for menorrhagia, as there is often an excess build-up and loss of synchronicity of the endometrium when compared with an ovulatory cycle. As long as the episode of bleeding is not too excessive or causing any hemodynamic compromise, the oral contraceptive pill (OCP) is appropriate treatment. However, one should not immediately assume that acute vaginal bleeding in an adolescentis due to an anovulatory cycle. It is most important to check an hCG to establish the patient's pregnancy status. History should focus on any bleeding disorder, history of trauma, or medications taken. This patient most likely has excessive bleeding from an anovulatory cycle. Her hematocrit is low (30%), and she still has some oozing; therefore, treatment is warranted. Treatment with the OCP should help to stabilize her endometrium and stop her bleeding.

(Choice 1) would not be indicated in this patient. Blood transfusions should be reserved for patients with very low hematocrits and signs of hemodynamic compromise. This patient has a hematocrit of 30% and stable vital signs. The risks of blood transfusion (e.g., infection and transfusion reaction) outweigh any benefit to be gained in this case.

(Choice 2) is indicated in situations in which clotting factors are needed. This patient has a normal PT and PTT and no history of a bleeding disorder; therefore, fresh frozen plasma would not be indicated.

(Choice 3) is the correct management in cases of acute bleeding caused by anovulation when the hematocrit is very low or when there are signs of hemodynamic compromise. IV conjugated estrogens work at both the capillary level and the level of the endometrium to stop bleeding. This patient, with her stable vital signs and stable hematocrit, would not need N conjugated estrogens.

(Choice 5) would not be the most appropriate next step in management, as this patient has a normal platelet count. She also has no history of a bleeding disorder to suggest that her platelets are functionally ineffective.

44. Question **1 points**

Category: Obstetrics & Gynaecology

A 36-year-old woman, gravida 3, para 3, is 2 days status post cesarean section for dystocia when she begins wandering the hallways of the hospital at 2 AM. She is extremely confused and thinks that she is at the police station. She states that she cannot sleep, feels very anxious, and wants to

hurt her baby. Her prenatal course was unremarkable. She has no medical problems and had never had surgery. She has been taking Tylenol with codeine postpartum for incisional pain. Which of the following is the most appropriate next step in the management?

1. Fluoxetine
2. Morphine
3. Naloxone
4. Psychiatric hospitalization
5. Supervised visit to the nursery

INCORRECT

The correct answer is 4.

This patient has postpartum psychosis. Postpartum psychosis typically occurs hours to days postpartum and is characterized by anxiety, agitation, insomnia, confusion, and ideation of hurting oneself, the baby, or others. Postpartum psychosis, especially when there are concerns regarding suicide or homicide, must be managed with psychiatric hospitalization for the patient.

(Choice 1) is an effective antidepressant. However, this patient has a full-blown postpartum psychosis including homicidal ideation. Management with fluoxetine would not be the most appropriate next step.

(Choice 2) is an opioid used for pain control. This patient has no complaints of pain. As such, morphine would not be an appropriate next step.

(Choice 3) is an opioid antagonist used in cases of opioid overdose, especially when there is a concern for respiratory depression. Although this patient is taking codeine (an opioid), she has no evidence of opioid overdose. Thus, naloxone would not be recommended.

(Choice 5) would not be recommended for this patient as the next step in her management. She is voicing homicidal thoughts regarding her infant; therefore, a visit to the nursery would not be appropriate at this time.

45. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman, gravida 5, para 2, abortus 3, has a history of prenatal substance abuse. Because she had delayed onset of prenatal care (with her first visit in the third trimester), she was too late for maternal serum triple-marker screening for fetal anomalies. She is unsure who the father of this pregnancy is. Late ultrasound examination of the fetus showed intrauterine growth restriction (IUGR) but normal amniotic fluid volume. At 37 weeks' gestation, she underwent a spontaneous vaginal delivery of a small-for-gestational-age male neonate with short palpebral

fissures, epicanthal folds, flat midface, hypoplastic philtrum, and thin vermillion border. These findings are characteristic in offspring born to mothers who prenatally abused which one of the following substances?

1. Tobacco
2. Alcohol
3. Marijuana
4. Amphetamines
5. Narcotics

INCORRECT

The correct answer is 2.

Substance use by an expectant mother can affect reproduction, from fertility through pregnancy and lactation. Research is difficult in this area because of the confounding effects of poor nutrition and exposure to multiple substances. The findings described in the case are consistent with fetal alcohol syndrome {FAS; **(Choice 2)**}. This is the most common preventable cause of mental retardation. Not all children with FAS have the distinctive physical findings, yet they are still at risk for lifelong neurological sequelae, such as attention-deficit disorder, hyperactivity, and memory and impulse control difficulties.

(Choice 1) Prenatal tobacco exposure is associated with sudden infant death syndrome and childhood behavioral problems but not with any specific syndrome.

(Choice 3) Prenatal marijuana exposure is linked to premature births, small birth size, difficult or long labor, and an increase in newborn jitteriness but not to birth defects.

(Choices 4 & 5) Prenatal amphetamine and narcotics are associated with neonatal abstinence syndrome, which refers to the constellation of signs and symptoms exhibited by infants with drug dependencies, but only alcohol has a clearly defined syndrome with intrauterine growth restriction, central nervous system effects, and facial anomalies.

46. Question

1 points

Category: Obstetrics & Gynaecology

A 25-year-old G 1 PO woman at 39 weeks gestation by last menstrual period confirmed by first trimester ultrasound presents to the hospital with complaints of vulvar pain and a “bump” on her vulva. On examination you see clear vesicles and inguinal adenopathy. No cervical or vaginal lesions are present. She is 2 cm dilated, 50 % effaced and at -2 station. Feta l heart rate and contraction monitoring is started. She is contracting regularly. No abnormalities are seen. Which of the following is the most effective intervention to reduce neonatal morbidity in this patient?

1. Immediate cesarean section
2. Expectant management
3. Augmentation of labor with oxytocin
4. Tocolysis with nifedipine
5. Antiviral treatment with acyclovir

INCORRECT

The correct answer is 1.

The patient described has a herpes simplex virus (HSV) eruption on her vulva. Clinically, HSV eruptions manifest as painful lesions classically on the lips or genital mucosa. Examination reveals solitary or grouped vesicles on an erythematous base that evolve to shallow, "punched-out" ulcerations or erosions. The risk of neonatal HSV infection, which can be fatal, is drastically increased if a normal vaginal delivery is done when the mother has an active HSV eruption.

(Choices 2 & 3) Expectant management and augmentation of labor with oxytocin is not appropriate in this patient. This patient should not be allowed to undergo a vaginal delivery due to the risk of neonatal HSV infection.

(Choice 4) There is no indication for tocolysis in a term pregnancy with an active genital herpes lesion. Delivery should be accomplished by caesarian section.

(Choice 5) Women with primary HSV should be treated with antiviral therapy although such therapy may not reduce the need for cesarean delivery.

47. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-oldwoman asks her physician about the possibility of genetic screening for BRCA1 mutations. Her mother died of breast carcinoma at age 44, and a sister had a diagnosis of in situ ductal carcinoma at age 38. Which of the following is the most appropriate advice to give this woman?

1. Explain that BRCA1 mutations are not associated with an increased risk of breast cancer
2. Recommend screening only if she is of Ashkenazi Jewish descent
3. Recommend counseling before genetic screening is undertaken
4. Suggest prophylactic bilateral mastectomy instead of screening

INCORRECT

The correct answer is 3.

The identification of BRCAl in 1990 was followed by the finding that mutations of this gene were frequent in a high proportion of women with familial predisposition for breast and ovarian cancer. This discovery suggested the possibility of genetic screening for breast cancer susceptibility genes. A commercially available genetic test was then developed. However, how this test should be applied and what to do when disease-related mutations are detected are still highly controversial issues. Suffice it to say that the most current studies discourage the widespread use of this form of genetic screening, unless there is a strong family history of breast cancer, especially if associated with ovarian cancer and arising at young ages. It is recommended that this screening be performed only along with genetic counseling to assess the individual psychological response to a positive result. However, it can be comforting for a woman to know that she does not carry BRCA1 mutations.

(Choice 1) To say that BRCA1 mutations are not associated with increased risk of breast cancer would certainly be a highly inaccurate statement. The lifetime risk of breast and ovarian cancer associated with BRCA1 mutations is, respectively, 85% and 50%. Mutations are inherited as autosomal dominant traits.

(Choice 2) Mutations of the BRCA1 gene may occur throughout the length of this gene. At this time, more than 130 germline mutations have been identified in the general population, and 1 in 500 individuals carry one of such mutations. In contrast, 1 in 100 Ashkenazi Jewish individuals carry a BRCA1 mutation in a specific location of the gene.

(Choice 4) A recommendation of prophylactic bilateral mastectomy would be highly problematic in a young woman, although in theory it is the only definitive measure to reduce the risk of developing breast cancer. The problem is what to do with individuals with BRCA1 mutations. Is increased surveillance sufficient, or should they undergo bilateral mastectomy? In the latter case, as some authors have written, “the prevention is worse than the disease.”

48. Question **1 points**

Category: Obstetrics & Gynaecology

A 31-year-old woman comes to the obstetrician at 12 weeks’ gestation for a prenatal examination. She has no complaints, takes no medications, and has no known drug allergies. She does not smoke or use illegal drugs but states that she drinks daily. Which of the following questions is most likely to create confrontation with this patient?

1. Have you ever been annoyed by criticism of your drinking?
2. Have you ever felt guilty about your drinking?
3. Have you ever felt the need to cut down on your drinking?

4. Have you ever had a morning drink to get started?
5. Have you ever tried to stop this harmful behavior that is hurting your baby?

INCORRECT

The correct answer is 5.

When asking screening questions for alcohol and drug dependence, it is important not to ask judgmental questions. “Have you ever tried to stop this harmful behavior that is hurting your baby?” is clearly a judgmental question that places the patient on the defensive. This type of question is most likely to create confrontation. Drinking is described as “harmful behavior” and the woman is told that she is “hurting” her baby. The implication in the question is that the mother is a “bad mother” for doing something injurious to her baby.

The CAGE questionnaire is a four-question screening test to detect problem drinking. The questions are as follows:

(Choice 3) Have you ever felt the need to cut down on your drinking?

(Choice 1) Have you ever been annoyed by criticism of your drinking?

(Choice 2) Have you ever felt guilty about your drinking?

(Choice 4) Have you ever had a morning drink to get started?

One positive response to these questions is a cause for concern. Two positive responses indicate that a problem is likely. Any patient who needs a drink to get started in the morning is much more likely to have alcohol dependence. This screening test allows the physician to determine which patients will need alcohol counseling and other interventions to prevent or stop problem drinking.

49. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old female at 30 weeks gestation complains of difficulty hearing, especially on the right side. She denies any ear pain or discharge. Her pregnancy was complicated by acute pyelonephritis at 22 weeks gestation, which was treated with antibiotics. She does not smoke or consume alcohol, and she eats a balanced diet. She has no preexisting medical problems and takes no medications aside from a multivitamin. Her blood pressure is 160/100 mmHg and heart rate is 75/min. Cardiac and pulmonary examinations are unremarkable. No focal abnormalities are found on neurologic examination. When a tuning fork is placed on the right mastoid process, she appreciates the tone louder than when it is held near the external auditory meatus. Audiometry shows right low-frequency hearing loss. Which of the following is the most likely cause of this patient’s complaints?

1. Antibiotic treatment
2. Hypertension of pregnancy

3. Meniere's disease
4. Otosclerosis
5. Chronic otitis media

INCORRECT

The correct answer is 4.

The above vignette describes the Rinne test in which a tuning fork is placed over the mastoid process and then to the ear. In a normal patient, the tone is typically louder when placed next to the ear as opposed to on the mastoid process, indicating increased air conduction compared to bone conduction. Bone conduction that is greater than air conduction in an ear with hearing loss is suggestive of conductive hearing loss. The normal finding of air greater than bone conduction can also be found in sensorineural hearing loss. This test can be used in conjunction with the Weber test, which helps to localize the side of decreased hearing by placing the tuning fork in the midline of the face and asking the patient which side sounds louder. The most likely diagnosis in this particular case is otosclerosis, and the patient's pregnancy and recent episode of pyelonephritis are likely unrelated. Otosclerosis is the most common cause of conductive hearing loss in adults, and is most common in patients in their 20's and 30's. There is a slight female predominance. In otosclerosis, the stapes footplate becomes fixed to the oval window, resulting in loss of its piston action. This disorder is sometimes also referred to as otospongiosis because CT may show a lucent (as opposed to sclerotic) focus in the temporal bone near the oval window. Therefore, CT could be used to confirm the diagnosis in this case.

(Choice 1) Ototoxic antibiotics such as aminoglycosides usually result in sensorineural as opposed to conductive hearing loss.

(Choice 2) This patient's high blood pressure will likely require further evaluation and treatment, but it is unlikely to be contributing to her hearing loss.

(Choice 3) Meniere's disease affects the inner ear and typically presents with aural fullness, tinnitus, and sensorineural hearing loss.

(Choice 5) Chronic otitis media may cause conductive hearing loss, but it is typically accompanied by pain and can easily be diagnosed by otoscopeic examination.

50. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old female comes to the physician because of increasing facial acne and recent menstrual irregularities. She has no significant past medical history and she takes no medications. She does not use tobacco, alcohol or drugs. She weighs 170 lb (77 Kg) and is 62 in (155 cm) tall. Physical examination shows moderate acne on her face and prominent hair on the upper lip. For which of the following conditions is she at greater risk than the general population?

1. Ovarian cancer
2. Breast cancer
3. Endometriosis
4. Endometrial carcinoma
5. Adrenal carcinoma

INCORRECT

The correct answer is 4.

This patient has a history and clinical findings which are typical of polycystic ovarian syndrome (PCOS). This condition should be suspected in any patient who has menstrual irregularities and evidence of hyperandrogenism. This includes clinical (i.e. hirsutism, acne, or male pattern baldness) and/or biochemical (i.e. high serum androgen concentrations) hyperandrogenism. The presence of these anomalies establishes the diagnosis. There is no need to visualize the cysts with ultrasonography to establish a diagnosis.

These hyperandrogenic women usually have an adequate amount of active estrogens. Androgens will be converted into estrogens in the peripheral tissues, even in the absence of normal ovarian function. Women with PCOS are oligo-, or anovulatory and are deficient in progesterone secretion; thus, they usually have a constant and unbalanced mitogenic stimulation of the endometrium by estrogens leading to endometrial hyperplasia, intermittent breakthrough bleeding and dysfunctional uterine bleeding. This unopposed estrogen stimulation leaves them at increased risk for endometrial cancer.

(Choices 1, 2, & 3) There is no evidence that these patients are at increased risk of developing breast cancer, ovarian cancer, or endometriosis.

51. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old nulliparous woman is being evaluated for infertility. She has no other medical problems. Pelvic examination reveals abundant mucous and a clear cervical secretion, which when lifted vertically extends in a long thread; pH is 6.5. This visit took place at which of the following phases of the menstrual cycle?

1. Early follicular phase
2. Ovulatory phase
3. Mid luteal phase

4. Late luteal phase
5. The secretion is abnormal

INCORRECT

The correct answer is 2.

In the ovulatory phase, cervical mucus is profuse, clear and thin in contrast to the mucus of the post- and pre-ovulatory phases, which is scant, opaque and thick. Evaluation of the cervical mucus is part of the infertility workup as “hostile” cervical mucus can disallow penetration of spermatozoa into the uterus. Normally, cervical mucus in the ovulatory phase stretches to approximately 6 cm when lifted vertically (spinnbarkeit), its pH is 6 .5 or greater (more basic than at other phases), and will demonstrate “terning” when smeared on a microscope slide.

(Choice 1) The early follicular phase immediately follows menstruation. The cervical mucus in this phase is thick, scant and acidic. It does not allow penetration by spermatozoa.

(Choices 3 & 4) In the mid- and late-luteal phase, ovulation has already occurred. In these phases, the cervical mucus becomes progressively thicker and exhibits less stretching ability. This mucus is also inhospitable to sperm.

(Choice 5) The secretion described is not abnormal. Abnormal secretions would have a purulent appearance, a foul odor or other features not typical of ovulatory cervical mucus.

52. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-old woman, gravida 3, para 1, abortus 1, comes to the maternity unit examination room at 39 weeks’ gestation by dates. Onset of prenatal care was at 10 weeks. Gestational age was confirmed by a 12-week sonogram. Her diabetes screening at 26 weeks’ gestation was within normal limits. She reports uterine contractions that have been regular for the past 3 hours. On examination, you find that the contractions are 3 minutes apart, last 50 seconds each, and are firm to palpation. Her membranes ruptured 1 hour ago, and you note clear Nitrazine-positive fluid leaking from her vagina. Digital cervical examination reveals dilation of 5 cm, effacement of 100%, and the presenting vertex at 0 station. Which of the following criteria is most accurate for assessing whether she has entered the active phase of labor?

1. Cervical effacement over 90%
2. Contraction duration over 30 seconds
3. Presenting fetal part is engaged
4. Cervical dilation of at least 4 cm

5. Ruptured membranes

INCORRECT

The correct answer is 4.

The determination of the stage of labor is important because the normal progress expected varies by which stage and phase of labor the patient is in. The first stage of labor (from onset of true labor to complete cervical dilation) has two phases: a latent phase, during which cervical effacement and early dilation occur, and an active phase, during which more rapid cervical dilation occurs. Cervical dilation of at least 4 cm marks the active phase.

(Choices 1 & 3) Cervical effacement over 90%, and contraction duration over 30 seconds are frequently noted in active labor but can also occur in early labor.

(Choices 1 & 3) Engagement of the fetal presenting part and membrane rupture are not essential for active labor diagnosis.

53. Question **1 points**

Category: Obstetrics & Gynaecology

A 42-year-oldwoman comes to the physician because of vaginal itch and discharge, dysuria, and dyspareunia. These symptoms have been steadily worsening over the past 3 days. Pelvic examination reveals an erythematous vagina and a thin, green, frothy vaginal discharge with a pH of 6. Microscopic examination of the discharge demonstrates the presence of a pear-shaped, motile organism. Which of the following is the most likely pathogen?

1. Candida albicans
2. Gardnerella vaginalis
3. Herpes simplex virus
4. Treponema pallidum
5. Trichomonas vaginalis

INCORRECT

The correct answer is 5.

This patient has the symptoms and signs most consistent with a Trichomonas vaginalis infection. Patients with T. vaginalis typically experience vaginal itch and discharge, dysuria, frequency and urgency of urination, and dyspareunia. However, a significant minority (around 20%) of patients infected with T. vaginalis will be asymptomatic. The key finding to diagnose the infection is the presence of motile, pear-shaped, flagellated organisms on the normal

saline, wet-mount smear preparation. These organisms will be smaller than the surrounding vaginal epithelial cells but larger than white blood cells. The treatment for T. vaginalis is metronidazole.
(Choice 1) is a common cause of vaginitis. We know from the findings, however, that this patient does not have a Candida infection. Her discharge is not consistent with Candida infection. Candida typically causes a thick, white ("cottage cheese") discharge with a pH of 4 to 5. Also, microscopic examination demonstrates the organism T. vaginalis and not the pseudohyphae seen with a Candida infection.
(Choice 2) is a common organism in bacterial vaginosis, in association with increased levels of anaerobic bacteria. The discharge in bacterial vaginosis can appear similar to that caused by T. vaginalis. However, bacterial vaginosis is usually characterized by a strong odor, and irritation of the vaginal epithelium is usually not seen. Furthermore, this patient has an identifiable organism on wet-mount.
(Choice 3) infection is characterized by vesicles and ulcers and an extremely tender vulva and vaginal area. This patient has no vesicles or ulcers and has an obvious organism on wet-mount.
(Choice 4) is the organism that causes syphilis. Primary infection with T. pallidum is characterized by a painless chancre on the vulva, vagina, or cervix. The organism is identified on dark-field microscopy and not wet-mount preparation.

54. Question **1 points**

Category: Obstetrics & Gynaecology

A 33-year-old, white woman, gravida 3, para 2, at 37 weeks' gestation comes to the emergency department because of painful uterine contractions and heavy vaginal bleeding that started after she used intranasal cocaine. The patient's prenatal course was significant because she conceived while on the oral contraceptive pill, she occasionally used cocaine and heroin during the pregnancy, and she was found to be positive for group B Streptococcus colonization at 35 weeks. Fetal monitoring is not reassuring. The patient undergoes cesarean section, at which the uterus has a bluish hue. On inspection, the placenta is noted to have an adherent, retroplacental clot on 50% of its surface. Which of the following is the most likely initiating factor for this patient's presentation?

1. Cocaine
2. Gestational age
3. Group B Streptococcus colonization
4. Oral contraceptive pill use
5. White race

INCORRECT

The correct answer is 1.

This patient has the classic presentation for placental abruption, which occurs when there is premature separation of a normally implanted placenta from its attachment to the uterus. The classic triad of presentation is third-trimester vaginal bleeding, painful uterine contractions or hypertonus, and fetal distress. Definitive diagnosis can be made when there is a retroplacental dot. The most common causes of abruption are maternal hypertension and trauma (e.g., motor vehicle accidents or domestic violence.) The relationship between cocaine use and abruption is well established. It is believed that the vasoconstrictive and hypertensive effects of cocaine lead to abruption.

(Choice 2) In this case, the gestational age is not the most likely initiating factor for the placental abruption, as 37 weeks is considered a term pregnancy. It is most likely that the cocaine use, rather than the gestational age, precipitated this course.

(Choice 3) is not known to be associated with placental abruption.

(Choice 4) Oral contraceptive pill use around the time of conception is a frequent concern for patients. It has never been proven to cause increased rates of anomalies and is not known to be associated with placental abruption.

(Choice 5) is not considered a risk factor for placental abruption.

55. Question **1 points**

Category: Obstetrics & Gynaecology

A 62-year-oldwoman comes to the physician because of vaginal itch and pain with intercourse. She had her last menstrual period at age 52. She has no medical problems, takes no medications, and is allergic to penicillin. Pelvic examination demonstrates pale vaginal mucosa with no rugae present. The vagina is dry with no discharge. A potassium hydroxide (KOH) and normal saline wet preparation is negative. Which of the following is the most appropriate initial step in management?

1. Clotrimazole vaginal cream
2. Estrogen vaginal cream
3. Metronidazole vaginal cream
4. Oral fluconazole
5. Oral metronidazole

INCORRECT

The correct answer is 2.
This patient has the signs and symptoms that are consistent with atrophic vaginitis, which affects women who are estrogen deficient. Most often it occurs after menopause. Estrogen helps to keep the vaginal mucosa moist and well supported; without estrogen, the mucosa becomes thin and pale and the rugae diminish. Patients with atrophic vaginitis tend to have pruritus, vaginal dryness, and dyspareunia. The most appropriate course of action for this patient would be to treat with estrogen vaginal cream. Systemic hormone replacement therapy could also be used, as it would also affect the vaginal mucosa.
(Choices 1 & 4) Treatment with clotrimazole vaginal cream or oral fluconazole would not be appropriate. Although this patient does have pruritus, she does not have the physical examination findings that are consistent with Candida infections: thick, white vaginal discharge, erythema of the vulvovaginal area, and pseudohyphae on KOH preparation. Thus, atrophic vaginitis, not Candida infection, is this patient's diagnosis, and the treatment is estrogen.
(Choice 3) Treatment with metronidazole vaginal cream or oral metronidazole **(Choice 5)** would not be appropriate. Metronidazole is used to treat bacterial vaginosis or trichomoniasis. This patient does not have the symptoms (e.g., vaginal discharge) or physical examination findings (e.g., vaginal pH >4.5, malodorous vaginal discharge, or clue cells or trichomonads on wet preparation) that would support the diagnosis of bacterial vaginosis or trichomoniasis.

56. Question **1 points**

Category: Obstetrics & Gynaecology

A 75-year-old woman comes to the physician complaining of vulvar itch that has been worsening for the past 2 years. She has had no bleeding from the vagina since she underwent menopause at the age of 52. She smokes five cigarettes per day. On physical examination she has a raised, pigmented lesion on the right labia majora. The rest of her physical examination is unremarkable. Which of the following is the most appropriate next step in the management of this patient?

1. Prescribe an antibiotic
2. Prescribe an antifungal
3. Prescribe steroid cream
4. Refer to psychiatry
5. Biopsy the lesion

INCORRECT

The correct answer is 5.
A history of chronic vulvar-e, itching is a common presentation in women with squamous cell carcinoma of the vulva. Other feature: include bleeding, pain, and a discharge. The lesions can appear ulcerated, pigmented, or raised, although infrequently there is no lesion at all. Any postmenopausal woman with chronic vulvar itch should undergo biopsy to rule out malignancy.
(Choices 1 & 2) Prescribing an antibiotic or an antifungal would be inappropriate management. Thi patient does not have an obvious infection for which either of these agents would be effective. Furthermore, trying antibiotics or antifungals could lead to further delay of the biopsy being performed.
(Choice 3) would also be inappropriate management. In postmenopausal women, certain vulvar lesions (e.g., lichen sclerosis) would respond to steroid cream. In this case, however, it is most important to first establish a diagnosis with a biopsy prior to instituting treatment.
(Choice 4) Attempting to ascribe this patient's itching to a possible psychiatric process without first trying to establish a diagnosis by biopsying the lesion would not be appropriate.

57. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman at 28 weeks gestation comes to the ER because of strong, regular and painful uterine contractions that started 4 hours earlier with the passage of clear fluid from her vagina. She denies any vaginal bleeding. She has had no prenatal care. Vital signs are normal. A sterile speculum examination shows pooling of amniotic fluid within the vagina, and a cervix that is 4 cm dilated and 80% effaced. Ultrasonogram in the emergency department shows an amniotic fluid index of 4 and bilateral renal agenesis in the fetus. Which of the following is the most appropriate next step in management?

1. Allow spontaneous vaginal delivery
2. Consent for cesarean section
3. Administer corticosteroids
4. Amnioinfusion and tocolysis

INCORRECT
The correct answer is 1.
This patient has preterm labor with rupture of the membranes. In this case, the fetus has a severe congenital anomaly incompatible with life, so labor should be allowed to proceed. Patients with bilateral renal agenesis will not survive outside the uterus because of the

severe pulmonary hypoplasia associated with renal agenesis. They will survive in utero because the placenta oxygenates the fetal blood and removes waste products from the fetal circulation.
(Choice 2) There is no need for a cesarean section, which increases maternal morbidity, as the fetus can be evacuated vaginally.
(Choices 3 & 4) Since the fetal anomaly is not compatible with life, all attempts to prolong pregnancy will not improve fetal mortality, and delivery should be allowed to proceed.

58. Question **1 points**

Category: Obstetrics & Gynaecology

A 41-year-oldwoman comes to the physician complaining of depression. She states that her depression started about 4 months ago and she cannot recall any precipitating event that led to it. She also notes insomnia and decreased appetite over the past 4 months. Her feelings grow worse at the time of menses but are always there. She states that she has had no thoughts of hurting herself or others. She is taking no medications. Physical examination is normal. Which of the following is the most appropriate next step in management?

1. Reassure the patient that these symptoms are normal
2. Perform or refer for a thorough psychological evaluation
3. Admit the patient to inpatient psychiatry
4. Prescribe fluoxetine for premenstrual syndrome (PMS)
5. Prescribe vitamin B_6 for premenstrual syndrome (PMS)

INCORRECT
The correct answer is 2.
Premenstrual syndrome (PMS) is very common, occurring in approximately 10% to 30% of women. However, when a patient presents with psychological symptoms, she should not just be assumed to have PMS. This patient with insomnia, depression, and decreased appetite most likely does not have PMS. For PMS to be diagnosed, symptoms should remit shortly after menses. This patient states that even though her feelings grow worse at the time of menses, her symptoms are always there. She is more likely to have depression than PMS. Thus, when a patient presents with worrisome psychological symptoms, a thorough psychological evaluation should be performed. If the physician does not feel capable of doing this, then referral should be made to an appropriate provider of care.
(Choice 1) To reassure the patient that these symptoms are normal would not be appropriate. Having insomnia, depression, and decreased appetite over the course of 4 months cannot be considered normal.

(Choice 3) Admitting the patient to inpatient psychiatry would not be appropriate. Although this patient does have insomnia, depression, and decreased appetite, she does not have any thoughts of hurting herself or others. She can therefore be evaluated in the outpatient setting.
(Choices 4 & 5) To prescribe fluoxetine or vitamin B_6 for PMS would be inappropriate. As explained above, one cannot simply assume that psychological complaints in a woman equal PMS. She first deserves a complete psychological evaluation.

59. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman comes to the outpatient office complaining of a pruritic, painful vaginal discharge. She is sexually active with two male sexual partners but finds intercourse very uncomfortable because of her vaginal symptoms. For the past 8 months, she has been using the estrogen–progestin contraceptive patch. She exercises regularly by walking 2 to 3 miles a day. She is following a low-carbohydrate diet and takes a multivitamin preparation. Findings of her general examination are unremarkable. Speculum examination of the vagina shows a foul-smelling greenish, frothy discharge. Vaginal pH, using Nitrazine paper, is 6.5. A wet mount of vaginal secretions in a saline suspension reveals a highly motile organism. Which of the following pharmacologic agents would be the most appropriate treatment?

1. Metronidazole
2. Clotrimazole
3. Miconazole
4. Acyclovir
5. Azithromycin

INCORRECT

The correct answer is 1.

The cause of the vaginitis is Trichomonas vaginalis, as evidenced by the pruritic discharge and the highly motile protozoan. The elevated vaginal pH and frothy greenish discharge are frequent clinical findings with trichomoniasis. The agent of choice is metronidazole. Due to an Antabuse effect of this medication, she should be advised not to drink alcohol while taking it. She also needs to be informed this is a sexually transmitted disease and her sexual partners also need to be treated. Ninety percent of females are symptomatic, compared with only 50% of males.
(Choices 2 & 3) Clotrimazole and miconazole are topical intravaginal antifungal agents used to treat vaginal yeast infections.
(Choice 4) is an antiviral agent used in genital herpes management.

(Choice 5) is an antibacterial macrolide antibiotic administered orally for the treatment of Chlamydia.

60. Question **1 points**

Category: Obstetrics & Gynaecology

An 18-year-old nulligravid woman complains of painful menses for the past 3 years. These symptoms are associated with cramping located in her lower abdomen and radiating to her lower back and inner thighs. She also has nausea and vomiting. She experienced menarche at age 13. Initially, her menses were irregular and not associated with any cramping or pain. She is not sexually active and is not requesting contraception. The only medication she is taking is thyroid hormone replacement for a diagnosis of hypothyroidism that was made 2 years ago. General and pelvic examinations are unremarkable. Her uterus is midline, symmetrical, not enlarged, nontender, and freely mobile. She has no cervical motion tenderness. Which of the following is the most likely mechanism causing this patient's symptoms?

1. ○ Excessive prostaglandin-induced myometrial contractions
2. ○ Myometrial irritation from ectopic endometrial lands
3. ○ Pelvic congestion from dilated spiral arterioles
4. ○ Excessive endometrial proliferation from un-opposed estrogen
5. ○ Bleeding into rapidly growing uterine leiomyomas

INCORRECT

The correct answer is 1.

This case scenario is characteristic of primary dysmenorrhea, which is classically associated with normal pelvic examination findings. Onset is typically within 2 years of menarche, when ovulatory cycles begin. When progesterone withdrawal bleeding occurs, there is prostaglandin-induced spiral arteriolar spasm resulting in excessive myometrial contractions, which cause uterine ischemia and pain.

(Choice 2) is known as adenomyosis. This is a cause of secondary dysmenorrhea and is associated with an enlarged, soft, tender uterus.

(Choice 3) is also associated with a tender, enlarged uterus.

(Choice 4) is found with chronic anovulatory syndromes but does not result in pain.

(Choice 5) Bleeding into rapidly growing uterine leiomyomas or fibroids is known as red or carneous degeneration. This occurs with high-estrogen states, such as pregnancy, when fibroid proliferation occurs so rapidly that the fibroid outgrows its own blood supply resulting in ischemia and severe pain. This is not a cause of primary dysmenorrhea.

61. Question **1 points**

Category: Obstetrics & Gynaecology

A 37-year-old G4 P3 woman delivered a 4,100 gram (9.02 lbs) infant by spontaneous vaginal delivery one hour ago. This pregnancy has been complicated by gestational diabetes for which she is being treated with insulin. The patient is currently on magnesium sulfate for elevated blood pressures and proteinuria. You are called to evaluate her because she began to have very heavy vaginal bleeding and is feeling lightheaded. Her blood pressure is 90/60 mm Hg and pulse is 98/min. On physical examination you see heavy vaginal bleeding and numerous blood clots. Her cervix is closed and the uterus can be palpated 3 cm above the umbilicus. The uterus feels boggy. What is the most likely cause of her current condition?

1. Placenta accreta
2. Preeclampsia
3. Insulin
4. Magnesium sulfate
5. Uterine atony

INCORRECT

The correct answer is 5.

Uterine atony is the single most common cause (80%) of postpartum hemorrhage (PPH). Risk factors for uterine atony include uterine overdistension (multiple gestation, polyhydramnios and macrosomia) and uterine fatigue (prolonged labor).

(Choices 1 & 2) Placenta accreta and preeclampsia are known risk factors for PPH but are not the most common causes.

(Choice 3) Insulin prevents fetal macrosomia if used carefully to avoid hyperglycemia in diabetic mothers throughout gestation. Use of insulin is therefore helpful in preventing excessive uterine distention and postpartum uterine atony by preventing macrosomia.

(Choice 4) Magnesium sulfate has uterine relaxing properties and can be used as a tocolytic agent for the prevention of acute preterm labor as well as in the setting of preeclampsia in order to prevent seizures. However, this alone is less likely to cause PPH.

62. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old woman presents to her physician because of pain in her breast. She gave birth 3 months ago and is breast-feeding. Soon after she began lactating she developed cracks in the nipples, and for the past 5 days her left breast has become progressively more tender. On physical examination, her affected breast is red, hot, swollen, and painful to palpation. Her temperature is 38.3 C (101.0 F), and her white cell count is 13,000/mm^3. Which of the following is the most likely diagnosis?

1. ○ Breast abscess
2. ○ Breast cancer
3. ○ Intraductal papilloma
4. ○ Mastalgia
5. ○ Traumatic hematoma

INCORRECT

The correct answer is 1.

Virtually the only time in life when a woman can get a breast abscess is during lactation; therefore, a red, hot, tender breast at that time is most likely to represent an abscess. The fever and leukocytosis provide further confirmation of the diagnosis.

(Choice 2) should be the number one choice if an identical vignette were given for a non lactating woman. Breast infections are extremely rare ou side of the postpartum period (unless precipitated b) trauma); thus, what appears to be breast abscess in non lactating woman is breast cancer until proven otherwise. Because this patient is breast-feeding, breast abscess is more likely.

(Choice 3) manifests itself with bloody discharge from the breast.

(Choice 4) is part of the “fibrocystic disease’ complex; as such, it is the most common benign breast disorder. It indeed produces pain, but the pain is related to the menstrual cycle and comes with “lumpiness’ of the breast, rather than redness, warmth, fever, and leukocytosis.

(Choice 5) is also painful, but it would come after a traumatic injury and would probably produce mass rather than a red, hot, swollen breast with fever and leukocytosis.

63. Question **1 points**

Category: Obstetrics & Gynaecology

A 33-year-old woman, gravida 3, para 3, comes to the physician for advice regarding birth control methods. She has no medical problems and takes no medications. She has been in a monogamous relationship with her husband for 9 years. She thinks that she does not want any

more children, but does not want a tubal ligation. Her physician recommends the intrauterine device (IUD). Which of the following is more likely to occur with this method of contraception compared with other methods of contraception?

1. Amenorrhea
2. Ectopic pregnancy
3. Intrauterine pregnancy
4. Venous thromboembolism
5. Weight gain

INCORRECT

The correct answer is 2.

In the correctly selected patient, the intrauterine device (IUD) is an excellent method of birth control. One of the major positive characteristics of the IUD is that it is easy for the patient to use. There is no pill to take daily, as with the oral contraceptive pill. There are no regular injections, as with intramuscular depot medroxyprogesterone acetate. And, there is no need to remember the method with each act of sexual intercourse, as with condoms, spermicides, and the diaphragm. One of the disadvantages often cited is that there is a higher rate of ectopic pregnancy associated with the use of the IUD compared with other birth control methods. However, the risk of ectopic pregnancy in IUD users is significantly less than in patients using no birth control. This is because the overall number of pregnancies is so much lower in patients using the IUD.

(Choice 1) is not considered to be a side effect of the IUD. Amenorrhea is commonly seen in patients on depot medroxyprogesterone acetate after 1 year of use. Amenorrhea also occurs in patients on the oral contraceptive pill for extended periods of time. Menorrhagia is more common with the IUD.

(Choice 3) is less likely with the IUD than with several other types of birth control. One reason is that the rates of pregnancy with perfect use of the IUD are equivalent to the rates with actual use. This is not the case with many other methods. For example, patients often forget to take their birth control pills every day or they do not use condoms every time they have sexual intercourse.

(Choice 4) is a complication of the oral contraceptive pill, not the IUD.

(Choice 5) is a side effect of depot medroxyprogesterone acetate, not the IUD.

64. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old nulliparous woman presents to your office complaining of a 7-week history of amenorrhea with a negative urine pregnancy test. Upon further questioning, she says that she feels fine and does not have any symptoms. She has a steady boyfriend and uses condoms for contraception. Her medical history is unremarkable, and she denies taking any medications beside vitamin supplements to help her in her workout. She is a senior college student and works as a secretary in a law firm. On physical examination, there is no hirsutism or galactorrhea. The rest of the examination reveals nothing abnormal. Her BMI is 28 kg/m2. Initial work-up reveals the following:

Serum TSH: 2.5 mU/mL (N= 0.5-5.0)
Prolactin: 10 ng/ml (< 20 ng/ml) According to these findings, which of the following is the most appropriate next step in the management of this patient?

1. Determine the activity of the hypothalamus
2. Determine the activity of the pituitary gland
3. Determine the endogenous estrogen production
4. Determine the ovulation status
5. Determine the prolactin levels one week later

INCORRECT

The correct answer is 3.

The first step in a patient with secondary amenorrhea is to rule out common situations; that is, pregnancy, then hyperprolactinemia, and hypothyroidism. The subsequent step should be the determination of the patient's estrogen status. The usual method serving this purpose is the progestin challenge test; however, this method is progressively abandoned, as it relies on the patient's compliance and may not result in withdrawal bleeding, despite the presence of adequate endogenous estrogen. Because of such limitations, clinical methods such as assessment of cervical mucus, vaginal epithelial cell maturation, and endometrial thickness, are more and more employed. If the patient has an adequate estrogen production and a history of intrauterine instrumentation, then Asherman's syndrome should be suspected. Patients with no such history are virtually all anovulatory or oligo-ovulatory. If estrogen production is inadequate, FSH levels should be ordered to determine the gonadal or central origin of the disorder.

65. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-old woman is brought to the emergency department because of severe lower abdominal pain. Over the past 24 hours, she has had several episodes of severe abdominal pain lasting for 15 to 20 minutes and then resolving. With the episodes of pain, she has nausea, vomiting, and diaphoresis. Her temperature is 37.7 C (100.0 F), blood pressure is 114/78 mm Hg, pulse is 110/min, and respirations are 14/min. Her lower abdomen is bilaterally tender, more on the left than the right. Pelvic examination is somewhat limited because of the patient's inability to tolerate it, but there is the suggestion of a left adnexal mass. Urine hCG and urinalysis are negative. Which of the following is the most appropriate next step in diagnosis?

1. ○ Pelvic ultrasound
2. ○ Abdominal x-ray
3. ○ CT scan
4. ○ MRI
5. ○ Culdocentesis

INCORRECT

The correct answer is 1.

This patient's presentation is classic for ovarian torsion, which occurs when an adnexal mass (e.g., an ovarian cyst or paraovarian cyst) twists on its pedicle. When this happens, blood supply to the ovary may be compromised, causing infarction. The symptoms are lower abdominal pain, which may wax and wane as the torsion and detorsion occur, nausea, vomiting, and diaphoresis. On examination, the patient will have abdominal tenderness, often with peritoneal signs if infarction has occurred. Pelvic examination will demonstrate an adnexal mass with adnexal tenderness. Pelvic ultrasound is the diagnostic modality of choice in the emergency department, as it rapidly allows for evaluation and characterization of adnexal masses. If the pelvic ultrasound shows an adnexal mass, the patient should be brought to the operating room for laparoscopy for presumed ovarian torsion.

(Choice 2) is not the most effective method for evaluating the uterus and adnexae. It is a good study for identifying certain types of gallstones, some kidney stones, intestinal obstruction or perforation, and some abdominal masses. However, this patient's presentation is much more consistent with ovarian torsion.

(Choice 3) is useful for evaluating the abdomen and pelvis, particularly for identifying masses in these regions. It is often used in situations in which the differential diagnosis includes appendicitis, abscess, or tumor. For this patient, however, the diagnosis of ovarian torsion is significantly more likely than any of these conditions.

(Choice 4) can provide an excellent evaluation of the pelvic organs. However, in the emergency department setting, and with a patient who has a classic presentation for ovarian torsion, pelvic ultrasound will more rapidly establish the presence of an adnexal mass. This will allow the patient to be brought to the operating room for laparoscopy and attempted detorsion or adnexectomy.

(Choice 5) is a procedure in which a spinal needle is introduced through the vagina into the posterior cul-de-sac and any fluid is aspirated Prior to the widespread availability and use of ultrasound, culdocentesis played an important role in the diagnosis of ectopic pregnancy. This patient has no indication for culdocentesis.

66. Question **1 points**

Category: Obstetrics & Gynaecology

A 44-year-oldwoman comes to the physician because of heavy periods. She states that her periods have gotten increasingly heavy over the past year. She now has a 6-day menstrual flow and needs to change pads far more frequently than before. She also complains of constant lower abdominal pressure. She has four children and does not wish to have any more. Examination shows a 16-week-sizeduterus. Hematocrit is 29%. Endometrial biopsy demonstrates benign endometrial tissue. Pelvic ultrasound shows an enlarged fibroid uterus with multiple fibroids. What is the most appropriate next step in management?

1. Hormone replacement therapy
2. Diagnostic laparoscopy
3. Myomectomy
4. Tubal ligation
5. Hysterectomy

INCORRECT

The correct answer is 5.

This patient has fibroids (leiomyomata). Fibroids are believed to be monoclonal tumors arising from uterine smooth muscle cells. Most often they are asymptomatic. When they are symptomatic, the symptoms include pain, pressure, urinary symptoms, or irregular uterine bleeding. This patient has significant menorrhagia causing her to have anemia to a hematocrit of 29%. She does not wish to have any more children; therefore, hysterectomy would be the most appropriate next step in management.

(Choice 1) would not be appropriate for this patient. This patient is neither postmenopausal nor estrogen deficient, so HRT would not be indicated.

(Choice 2) would not be appropriate for this patient. This procedure is used for diagnosis in cases of acute or chronic pelvic pain or ectopic pregnancy. In this patient, the diagnosis is clear, given her findings on physical examination and ultrasound.

(Choice 3) can be used in the treatment of fibroids, but it is usually reserved for patients who wish to preserve their childbearing potential. Myomectomy is usually quite effective in removing the fibroids; however, 25 to 50% of patients will have a recurrence, and as many as

10% of patients will require a second operation. This patient does not wish to preserve her uterus; therefore, hysterectomy would be preferred over myomectomy.
(Choice 4) would effectively address this patient's desire not to have any more children; however, it would not address her pelvic pressure and menorrhagia.

67. Question **1 points**

Category: Obstetrics & Gynaecology

An anxious 33-year-old woman, gravida 3, para 1, abortus 1, is seen for her first prenatal visit at 10 weeks' gestation by dates. This was a planned pregnancy, and she discontinued the transdermal contraceptive patch 4 months ago. She is taking prenatal vitamins, including iron and folic acid. First trimester bleeding that progressed to hemorrhage complicated her first pregnancy, necessitating a suction dilatation and curettage at 8 weeks' gestation. Her last pregnancy was uncomplicated prenatally. She went into spontaneous labor at 39 weeks' gestation, progressing normally in labor with a reassuring electronic fetal heart rate monitor pattern. However, after an uncomplicated spontaneous vaginal delivery with neonatal Apgar scores of 8 and 9 at 1 and 5 minutes, respectively, her female neonate died on the second day of life from overwhelming group B β-hemolytic streptococcal (GBS) infection. Which of the following statements best expresses what you will tell her about her current pregnancy?

1. Most women with a positive vaginal GBS culture will have uninfected infants.
2. A negative vaginal GBS culture means the fetus will not be at risk at delivery.
3. Appropriate treatment for a positive GBS vaginal culture can eradicate the organism.
4. The GBS organism is a pathologic bacterium in the female genital tract.
5. Rapid non culture assay tests are highly sensitive for the GBS organism.

INCORRECT

The correct answer is 1.

The group B β-hemolytic streptococcus (GBS) neonatal attack rate is only 1-2 cases per thousand women with a positive vaginal culture; most women with a positive vaginal culture will have uninfected infants. However, GBS still has the potential for significant adverse impact on the fetus, neonate, or both, because if neonatal sepsis does occur, the mortality rate approaches 50%. This is why screening for GBS is now recommended by the Centers for Disease Control and Prevention (CDC) for all women at 36 weeks' gestation, with intrapartum penicillin prophylaxis if culture positive.
(Choice 2) Even though most infants born to women with a positive GBS culture are not infected, a negative culture does not rule out the presence of the organism at the time of delivery because most GBS carriers harbor the bacterium only intermittently or transiently.

(Choice 3) Treating carriers is ineffective for eradicating the organism.
(Choice 4) Up to 30% of women of reproductive age will have colonization with GBS; the organism is part of normal female genital tract flora.
(Choice 5) Current non culture assay tests are specific but not very sensitive. The diagnostic modality of choice is a culture.

68. Question **1 points**

Category: Obstetrics & Gynaecology

A 37-year-old woman, gravida 4, para 4, underwent a routine cervical Pap smear during an annual examination. She has regular menstrual periods and underwent a tubal sterilization surgical procedure after her last delivery 5 years ago. She denies excessive pain with menses or intercourse. She has been watching her diet and exercises regularly at the local fitness center; as a result, during the past 6 months she lost 15 pounds. She underwent a divorce 3 years ago but has now remarried. Her present husband also was divorced after 10 years in a previous marriage. The cytologic evaluation showed a high-grade squamous intraepithelial lesion (HSIL). She was referred for colposcopy and directed biopsies. Which of the following findings would be an indication for a diagnostic cervical conization?

1. Intraepithelial neoplasia on biopsy with satisfactory colposcopy
2. Negative endocervical curettage with satisfactory colposcopy
3. Cervical biopsy showing mild dysplasia
4. Cervical biopsy showing carcinoma in situ
5. Cervical biopsy showing stage IB invasive carcinoma

INCORRECT

The correct answer is 3.

A diagnostic cervical cone biopsy is performed only if the combination of Pap smear, colposcopy, and directed cervical biopsies cannot unequivocally rule out frankly invasive carcinoma. A cone biopsy would be in order if the cervical biopsy showed mild dysplasia, because the high-grade squamous intraepithelial lesion (HSIL) Pap smear suggests a more severe lesion than was identified on colposcopy.
(Choice 1) No cone biopsy is indicated for intraepithelial neoplasia on biopsy with satisfactory colposcopy. Satisfactory colposcopy means the entire transformation zone (T-zone) is seen and no lesion or squamous epithelium enters the endocervical canal.
(Choice 2) A negative endocervical curettage (ECC) result with satisfactory colposcopy means that the entire T-zone was seen and the ECC pathology report showed normal histologic findings.

(Choice 4) A cone biopsy is not needed if the cervical biopsy showed carcinoma in situ, because frankly invasive disease is ruled out.
(Choice 5) When frankly invasive carcinoma is found on cervical biopsy, further confirmation of invasive disease becomes superfluous.

69. Question **1 points**

Category: Obstetrics & Gynaecology

A 14-year-old girl comes to the physician complaining of pelvic pain each month. She states that approximately every 30 days she develops crampy lower abdominal pain that resolves after a day or two. She has never had a menstrual period. Examination shows normal development of the breasts and the presence of axillary and pubic hair. Pelvic examination demonstrates a vaginal bulge. Rectal examination reveals a mass anterior to the rectum. Urine hCG is negative. Which of the following is the most likely diagnosis?

1. Colon cancer
2. Ectopic pregnancy
3. Endometriosis
4. Imperforate hymen
5. Vaginal cancer

INCORRECT

The correct answer is 4.

This patient presents with signs and symptoms most consistent with imperforate hymen. With an imperforate hymen, there is no egress for the monthly menstrual flow. Therefore, the patient will often complain of monthly cramping. Because there is no hormonal abnormality, the patient will have normal breast development as well as axillary and pubic hair. Pelvic examination will sometimes show a bulge as the monthly menstrual flow accumulates in the vagina. Rectal examination may reveal an anterior bulge, as the accumulation in the vagina can be palpated through the rectum. Management is with hymenectomy to allow for the egress of the monthly menstrual flow.
(Choice 1) is unlikely in an otherwise healthy 14-year-old, and this patient's signs and symptoms are more consistent with imperforate hymen.
(Choice 2) is extremely unlikely with a negative hCG. Ectopic pregnancies almost never present as a bulge in the vagina, as they are usually located in the fallopian tube.
(Choice 3) can present with monthly dysmenorrhea. However, this patient also has a bulge in the vagina, which is more consistent with imperforate hymen.

(Choice 5) is unlikely in an otherwise healthy 14-year-old. This patient has monthly dysmenorrhea and a bulge in the vagina, both of which are most consistent with imperforate hymen.

70. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old woman who is one week postpartum presents with dull pain in her left leg for the past three days. She denies any history of trauma, fever or chills. Her pregnancy and delivery were uncomplicated, and her past medical history is unremarkable. She does not use tobacco, alcohol or illicit drugs. Her temperature is 37.2 °C (98.9 °F) and blood pressure is 120/76 mm Hg. Physical examination reveals a swollen, tender, and mildly erythematous left leg. Doppler ultrasonogram reveals a thrombus in the superficial femoral vein of the left leg. Which of the following is the most appropriate next step in management?

1. Reassurance and ibuprofen
2. Anticoagulation with heparin
3. Inferior vena cava filter
4. Thrombolytic therapy
5. Anti staphylococcal antibiotics

INCORRECT

The correct answer is 2.

Pregnancy is a major risk factor for deep venous vein thrombosis, especially during the peripartum period. Despite its name, the superficial femoral vein is in fact a deep vein of the thigh that is continuous with the external iliac vein proximally and the popliteal vein distally. Deep vein thromboses require anticoagulation with heparin.

(Choice 1) Reassurance is inappropriate management for deep vein thromboses, since there is a significant risk of pulmonary embolism .

(Choice 3) Inferior vena cava filters are only indicated in patients with recurrent DVT in spite of anticoagulation, and in cases of DVT where there are contraindications to anticoagulation.

(Choice 4) Thrombolytic therapy is rarely used for treatment of deep venous thrombosis. Occasionally, targeted thrombolytic therapy can be used, but it is usually reserved for upper extremity deep venous thrombosis.

(Choice 5) Anti staphylococcal antibiotics are appropriate for the management of cellulitis, which is a cause of redness and swelling of the lower extremity. However, venous ultrasound confirms the diagnosis of DVT in this patient.

71. Question **1 points**

Category: Obstetrics & Gynaecology

A 17-year-old teenage girl presents to your office with a 10-month history of lower abdominal pain that radiates to the upper thighs and back. The pain is colicky in nature and usually starts a few hours prior to menses, lasting 3-4 days. Menses have occurred at regular 28-day intervals over the past 2 years. She has no inter-menstrual bleeding. She became sexually active 6-months ago and does not use contraception. Physical examination shows healthy external genitalia and well-developed secondary sexual characteristics; the uterus is normal in size and freely mobile. Examination shows no other abnormalities. Which of the following is the most likely cause of her pelvic pathology?

1. Ureteric stone
2. Pelvic infection
3. Abnormal myometrial growth
4. Increased prostaglandins
5. Ectopic endometrial implants

INCORRECT

The correct answer is 4.

Lower abdominal pain that radiates to the thighs and back and begin hours before menstruation is classic for primary dysmenorrhea. In primary dysmenorrhea, the release of prostaglandins during the breakdown of the endometrium is believed to be the cause of symptoms. Women with primary dysmenorrhea have higher levels of prostaglandins than normal. These levels can be reduced with NSAIDs, which are the most effective treatment for this condition.

(Choice 1) Ureteric stones have no relation to menstruation.

(Choice 2) Pelvic inflammatory disease is very unlikely in the absence of fever, cervical motion tenderness, adnexal tenderness, and vaginal discharge.

(Choice 3) Patients with uterine fibroids typically complain of heavy periods and have an enlarged uterus.

(Choice 5) Signs and symptoms of endometriosis may include dysmenorrhea, dyspareunia, tender pelvic nodes, a fixed retroverted uterus, and infertility.

72. Question **1 points**

Category: Obstetrics & Gynaecology

An 18-year-old woman arrives in your clinic with primary amenorrhea, sexual infantilism, and clitoromegaly. She has a history of ambiguous external genitalia noted at birth. Reviewing her records, you see that laparotomy performed at 17 months of age revealed normal internal female genitalia and ovarian biopsy performed at that time revealed normal-appearing primordial follicles. Laboratory studies today reveal a normal female karyotype and high serum testosterone and androstenedione concentrations. Estradiol and estrone are undetectable in the serum. Serum FSH and LH concentrations are high. Pelvic imaging shows multiple ovarian cysts. What is the most likely diagnosis?

1. Congenital adrenal hyperplasia
2. Aromatase deficiency
3. McCune-Albright syndrome
4. Kallmann's syndrome
5. Galactosemia

INCORRECT

The correct answer is 2.

Aromatase deficiency is a rare genetic disorder marked by either total absence or poor functioning of the enzyme that converts androgens into estrogens. Its consequences are numerous. In utero the placenta will not be able to make estrogens, leading to masculinization of the mother that resolves after delivery. The high levels of gestational androgens result in a virilized XX child with normal internal genitalia but ambiguous external genitalia. Clitoromegaly is often seen when excessive androgens are present in utero. Later in life patients will have delayed puberty, osteoporosis, undetectable circulating estrogens, high concentrations of gonadotropins and polycystic ovaries. This patient's history of normal internal genitalia with ambiguous external genitalia, clitoral hypertrophy, and high FSH/LH with low estrogen is consistent with aromatase deficiency.

(Choice 1) Congenital adrenal hyperplasia (CAH) can cause pseudohermaphroditism in females with virilization, as well as salt wasting. 21-hydroxylase deficiency is the most common cause. In 21-hydroxylase deficiency, estrogen is still synthesized and internal genitalia are normal.

(Choice 3) McCune-Albright syndrome is marked by the triad of care au lait spots, polyostotic fibrous dysplasia, and autonomous endocrine hyperfunction. The most common endocrine feature is gonadotropin independent precocious puberty. Thus, patients have early puberty, in contrast to the ambiguous genitalia and delayed menarche in the patient described above.

(Choice 4) Kallmann's syndrome is hypogonadotropic hypogonadism with anosmia. Patients will have delayed puberty but, unlike this patient, have low or absent LH and FSH levels.

(Choice 5) Galactosemia is due to deficiency of galactose-1-phosphate uridyltransferase. It results in galactose-1-phosphate accumulation in the liver, brain, and kidney which leads to cirrhosis, mental retardation, and Fanconi's syndrome. It is not strongly associated with reproductive abnormalities.

73. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-oldblack gravida2, para 1, at 32 weeks' gestation presents to the physician for a prenatal visit. Her prenatal course has been remarkable for hyperemesis gravidarum in the first trimester. She also had a urine culture in the first trimester that grew out Group B Streptococcus. She has had type 1 diabetes for the past 2 years and has had good control of her blood glucose levels during this pregnancy. Her first pregnancy resulted in a low transverse cesarean section for dystocia. Other than insulin, she takes no medicines and has no known drug allergies. After a routine prenatal visit, the physician sends her to the antepartum fetal testing unit to undergo a nonstress test (NST). Which of the following characteristics makes this patient a good candidate for antepartum fetal testing with an NST?

1. Black race
2. Diabetes mellitus
3. Group B Streptococcus urine culture
4. History of cesarean section
5. Hyperemesis gravidarum

INCORRECT

The correct answer is 2.

Women with diabetes mellitus are at increased risk for sudden intrauterine death. In the past, antepartum fetal death occurred in as many as 20 to 30% of patients with type 1 (insulin requiring) diabetes. Now, with improved maternal care and fetal surveillance, sudden intrauterine death is rare. Fetal surveillance usually begins at 28-32 weeks, gestation and consists of twice weekly nonstress tests (NST) until the mother delivers. An NST is reactive if there are two accelerations of the fetal heart rate (an increase of 15/min for 15 seconds) in 20 minutes. If the NST is not reactive, uteroacoustic stimulation should be performed, followed by a contraction stress test or biophysical profile. Management would then be based on the outcome of those tests.

(Choice 1) Many obstetric outcomes vary according to race. However, black race would not be an indication for antepartum fetal testing. In this patient, her diabetes mellitus makes her a candidate for such testing, not her race.

(Choice 3) A urine culture positive for group B Streptococcus (GBS) is an indication for antibiotic prophylaxis during labor and delivery to prevent GBS invasive disease in the newborn. A positive GBS urine culture is not an indication for antepartum fetal testing.
(Choice 4) is an important aspect of the patient's past obstetric history. However, in the absence of diabetes mellitus, a prior c-section is not an indication for antepartum fetal testing.
(Choice 5) is a condition of pregnancy characterized by persistent nausea and vomiting. It is most often limited to the first trimester and usually resolves by 16 weeks' gestation. Although hyperemesis gravidarum can be a difficult condition for the patient, it is not an indication for antepartum fetal testing.

74. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old woman, gravid a 3, para 2, at 28 weeks gestation comes to the physician because she has only felt 2-3 fetal movements in the past 12 hours. As in her previous pregnancies, she has gestational diabetes, which is under good control with diet and mild exercise. She does not use tobacco, alcohol or drugs. Vital signs are normal. Physical examination is unremarkable. Feta l heart tones are heard. Which of the following is the next most appropriate step in management?

1. Non-stress test
2. Biophysical profile
3. Contraction stress test
4. Ultrasonography
5. Deliver the baby immediately

INCORRECT

The correct answer is 1.

In the presence of decreased fetal movements, fetal compromise should be suspected and the best next step in management is a nonstress test (NST). NST is usually performed in high risk pregnancies starting at 32-34 weeks gestation or when there is a loss of perception of fetal movements in any pregnancy. NST is carried out by recording the fetal heart rate while monitoring for spontaneous perceived fetal movements. A test is considered reactive (normal) if in 20 minutes 2 accelerations of the fetal heart rate of at least 15 beats per minute above the baseline lasting at least 15 seconds each are noted. If less than 2 accelerations are noted in 20 min, the test is considered nonreactive (abnormal) and further assessment is required. The most common cause of a nonreactive NST is a sleeping baby, not a diseased baby, so vibroacoustic stimulation is used to wake the baby up and allow a timely test.

(Choice 2) A biophysical profile (BPP) is a scoring system designed to evaluate fetal well-being. It is indicated in high risk pregnancies and in cases of maternal or physician concern, decreased fetal
movements or a non-reactive NST.
(Choice 3) In a contraction stress test (Oxytocin challenge test), the mother is given an infusion of oxytocin sufficient to result in 3 contractions per 1 0 minutes, and the effect these contractions have on fetal heart activity is recorded. If a late deceleration is noted at each contraction, the test is positive and delivery is usually recommended. Because this is a more invasive test, it is not used as an initial examination.
(Choice 4) Ultrasonography is not as sensitive as NST or BPP for evaluation of decreased fetal movements and fetal well-being. It is, however, the first step if fetal demise is suspected as it can document the presence or absence of fetal heart movement.
(Choice 5) Delivery is indicated when significant signs of fetal distress or maternal deterioration are present.

75. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman, gravida 1, para 0, at 26 weeks' gestational age presents to her physician's office complaining of spotting from the vagina. She has no contractions and reports normal fetal movement. She denies any history of a bleeding disorder. Her temperature is 37.3 C (99.1 F), blood pressure is 100/60 mm Hg, pulse is 75/min, and respirations are 14/min. Her abdomen is gravid and benign, with a fundal height of 26 cm. A placenta previa is ruled out by ultrasound examination. Pelvic examination reveals some scant blood in the vagina, a closed os, and no uterine tenderness. Leukocyte count is 12,000/mm^3, hematocrit is 33%, and platelet count is 140,000/mm^3. Her blood type is A, Rh negative. Which of the following is the most appropriate pharmacotherapy?

1. Antibiotics
2. Blood transfusion
3. Magnesium sulfate
4. Platelet transfusion
5. RhoGAM™

INCORRECT

The correct answer is 5.

A woman who is pregnant and bleeding should have her blood type checked. If her blood type is Rh negative, she should receive RhoGAM unless the father of the child is known with certainly to be Rh-negative. RhoGAM is anti-D immune globulin, which will bind to the D

subtype of the Rh antigen. It is given to prevent Rh isoimmunization. The Rh, or Rhesus, antigen is found on the red blood cells of most people. However, a certain percentage of women will not have the Rh antigen on their red blood cells. Rh isoimmunization occurs when an Rh-negative mother gets sensitized by being exposed to the Rh antigen of her fetus' red blood cells. This exposure may occur whenever the woman has an episode of bleeding, (with trauma, an amniocentesis, or delivery). She then may make antibodies against the Rh antigen. These antibodies typically do not affect the initial pregnancy of the exposure. However, in a subsequent pregnancy, if that fetus also is Rh positive and the Rh-negative mother has been previously sensitized by an Rh-positive fetus, the mother may mount an immune response against the red blood cells of her fetus. The antibodies that she makes may cross the placenta and destroy the fetal red blood cells. This process can lead to significant fetal morbidity and mortality. RhoGAM should be given to any Rh-negative pregnant woman who has an episode of bleeding. If there is no bleeding during the pregnancy, then it should be given routinely at about 28 weeks and again postpartum if the neonate is Rh positive.

(Choice 1) would not be indicated here. There is a normal leukocytosis of pregnancy, with white cell counts ranging from 5000 to 12,000/mm^3 During labor and immediately postpartum, it may become even more elevated, averaging 14,000-16,000/mm^3. This patient has no evidence of infection on the basis of her vital signs, examination, or laboratory values; therefore, antibiotics would not be indicated.

(Choice 2) would not be indicated here. On average, healthy pregnant women will have lower hematocrits than nonpregnant women. Some refer to this as the "physiologic anemia of pregnancy." Therefore, a hematocrit of 33% is a routine finding during normal pregnancy and would not be an indication for transfusion.

(Choice 3) is a drug commonly used in obstetrics. It is used for the treatment of preterm labor and for the prevention of seizures in patients with preeclampsia. Although bleeding from the vagina can be a sign of preterm labor, this patient has a normal, closed cervical os and has had no contractions. She also has no symptoms or findings to suggest preeclampsia, which is diagnosed on the basis of hypertension, edema, and proteinuria. Therefore, magnesium sulfate would not be used in this patient.

(Choice 4) would not be indicated here. Many normal pregnancies are characterized by a drop in the platelet count to a low-normal or even below normal value. When it is below normal, it is termed gestational thrombocytopenia. No intervention is necessary in the case of gestational thrombocytopenia. Platelet transfusions are reserved for more severe cases of bleeding, in the presence of a bleeding disorder, or for a surgical procedure.

76. Question

1 points

Category: Obstetrics & Gynaecology

A newborn male has small body size, small eye openings, low-set ears, a sunken nasal bridge, flat philtrum and a thin upper lip. Which of the following is the most likely cause of the fetal condition?

1. Group B streptococcal infection
2. Maternal opioid abuse
3. Maternal alcohol abuse
4. Uncontrolled diabetes mellitus
5. Mycoplasma infection

INCORRECT

The correct answer is 3.

Feta l alcohol syndrome presents with intrauterine growth retardation (IUGR), microcephaly and facial dysmorphology. Typical facial findings include midfacial hypoplasia, micrognathia, a flattened (smooth) philtrum, microphthalmia, short palpebral fissures and a thin upper lip. CNS damage is also typical of the fetal alcohol syndrome. CNS manifestations include irritability, attention deficit hyperactivity disorder, learning disabilities and frank mental retardation.

(Choice 1) Group B streptococcal infection acquired during birth from a colonized mother can cause pneumonia, meningitis and sepsis in newborn infants within the first seven days of life.

(Choice 2) Maternal opioid abuse results in withdrawal symptoms in the infant following birth. These symptoms include irritability, tremors, vomiting, diarrhea and salivation. There are long-term CNS deficits in these infants and an increased risk of SIDS.

(Choice 4) Uncontrolled diabetes mellitus results in fetal macrosomia, birth injuries, congenital malformations, hypoglycemia, polycythemia, respiratory distress and cardiomyopathy among other possible findings.

(Choice 5) Mycoplasma infection is not known to cause any specific fetal defects or malformations.

77. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old primigravid woman at 10-weeks, gestation comes to the physician for a routine prenatal appointment. Her dating is based on a 6-week ultrasound. She has sickle-cell anemia. She has no past surgical history, takes prenatal vitamins, and has no known drug allergies. She tells the physician that she recently learned that the father of the baby has sickle-cell trait. On examination, her uterus is appropriate for a 10-week gestation, and fetal heart tones are heard. Her hematocrit is 37%. What is the most appropriate next step in the management of this patient?

1. Genetic counseling

2. Obstetric ultrasound
3. Hydroxyurea
4. IV hydration
5. Blood transfusion

INCORRECT

The correct answer is 1.

Sickle-cell anemia results from a single A-T substitution that leads to valine being substituted for glutamic acid on the beta-chain of the hemoglobin molecule. This change in the configuration of the hemoglobin molecule makes the erythrocyte sickle when it becomes deoxygenated. Patients with sickle-cell anemia have a number of maladies, including severe pain crises, pulmonary infarction, bony abnormalities, cerebrovascular accidents, and an increased likelihood of infection with gram-positive organisms. This patient has sickle-cell anemia (SS), and the father of the baby has sickle-cell trait (AS).This gives the fetus a 50% likelihood of having sickle-cell disease and a 50% likelihood of having sickle-cell trait. Amniocentesis and chorionic villus sampling can be used to determine the genotype of the fetus. This patient should at least be offered the option of having genetic counseling to better understand the inheritance of the disease and the fetus' likelihood of having each outcome.

(Choice 2) is a very useful diagnostic modality to examine the fetus, umbilical cord, placenta, amniotic fluid, and maternal pelvic structures. This patient, however, does not have an indication for an ultrasound at this time. This patient already had a 6-week ultrasound, which is especially useful for dating the pregnancy. The best time to do a "screening" ultrasound to look for fetal anomalies is during the second trimester. This patient, at I O-weeks' gestation with an ultrasound done 4 weeks ago, would have no indication for another ultrasound at this time.

(Choice 3) is a drug used to increase the production of hemoglobin F in patients with sickle-cell anemia who are not pregnant. It is considered a class D drug, and its use in pregnancy is limited.

(Choice 4) is frequently used in patients with sickle-cell anemia during pain crises. This patient has no evidence of having a pain crisis; therefore, IV hydration would not be indicated during a prenatal visit.

(Choice 5) during pregnancy for the patient with sickle-cell anemia is an area of controversy. Some argue for routine transfusion to maintain the hematocrit above 25% and the level of hemoglobin A above 40%. This patient is asymptomatic, with a hematocrit of 3 7% at 10 weeks' gestation. Therefore, blood transfusion would not be indicated as the next step in management.

78. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old woman at 12 weeks' gestation presents to the physician for her first prenatal visit. She has had ss, nausea, but no other complaints. Pelvic examination shows a bulky cervix with a mass involving the cervixAl>and the upper vagina. A biopsy of the mass reveals squamous cell carcinoma of the cervix. Which of the following is the most appropriate management?

1. Expectant management
2. Pap smear in 3 to 6 months
3. Colposcopy in 4 to 6 weeks
4. Cone biopsy
5. Radical hysterectomy

INCORRECT

The correct answer is 5.

Gynecologic cancer is the most common form of cancer occurring during pregnancy. Of the gynecologic cancers, endometrial cancer is the most common, followed by ovarian, cervical, and vulvar cancer. This patient has cervical cancer in the first trimester of pregnancy. Prompt therapy is required to treat invasive cervical cancer during pregnancy. Depending on the stage, cervical cancer may be treated with surgery or radiation. An advanced stage cervical cancer in early pregnancy (as suggested by the findings in this case) would require radical hysterectomy or radiation, which would lead to termination of the pregnancy. If cervical cancer is diagnosed late in pregnancy, one can wait for fetal maturity prior to delivery and treatment.

(Choice 1) would not be appropriate. This patient has an invasive cancer. Waiting 28 or more weeks for the patient to deliver could allow progression of the cancer.

(Choice 2) would be appropriate management for a nonpregnant patient with atypical squamous cells of undetermined significance (ASCUS). This patient has invasive cancer. Therefore, cytologic screening with Pap smear is not necessary; what is needed is treatment.

(Choice 3) The diagnosis of invasive cervical cancer has already been made. Therefore, a diagnostic modality like colposcopy is not needed.

(Choice 4) can be used in pregnancy to exclude invasive cancer if a biopsy shows microinvasion. This patient does not require a cone biopsy for diagnosis, as she has tumor involving the upper portion of the vagina, which makes her at least stage II. Cone biopsy would therefore play no role in the management of this patient.

79. Question **1 points**

Category: Obstetrics & Gynaecology

A 35-year-old woman, gravida 5, para 4, abortus 1, is seen for an annual examination and cervical cancer screening. Her four successful pregnancies all ended with term spontaneous vaginal deliveries of neonates weighing between 3,000 g (6 lb 10 oz) and 4,000 g (8 lb 13 oz). All children are alive and well. She had an uncomplicated elective laparoscopic tubal sterilization procedure performed 2 years ago under general anesthesia. Her 30-year-old sister also comes in for a routine annual examination. She has never been pregnant. She uses combination oral contraceptive pills for birth control. Which of the following physical examination findings of the cervix would be more typical of this 35-year-old woman than of her 30-year-old sister?

1. Increased bluish hue
2. Purulent discharge
3. Retracted squamocolumnar junction
4. Transverse-appearing external os
5. Absence of scarring

INCORRECT

The correct answer is 4.

On physical examination, the astute observer can identify the irreversible changes that pregnancy brings to the female body, especially in the reproductive tract. A transverse-appearing external os is more typical of a multiparous than a nulliparous cervix. This is sometimes described as a “fish-mouth” shaped cervical os.

(Choice 1) is true of pregnancy (Chadwick sign) because of the increased vascularity of the cervix but is unrelated to parity.

(Choice 2) is characteristic of cervicitis but is unrelated to parity.

(Choice 3) is found in postmenopausal women but is unrelated to parity.

(Choice 5) is a characteristic of nulliparous, not multiparous, women.

80. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old woman, gravida 3, para 2, at 38 weeks’ gestation presents to the labor and delivery ward complaining of headache. She has no contractions. Her prenatal course was unremarkable until she noted the onset of swelling in her face, hands, and feet this week. Her obstetric history is significant for two normal spontaneous vaginal deliveries. She has no significant past medical or surgical history. Her temperature is 3 7 .0 C (98.6 F), blood pressure is 160/92 mm Hg, pulse is 78/min, and respirations are 16/min. Examination reveals3+ patellar reflexes bilaterally. A cervical

examination reveals that her cervix is 3 cm dilated and 50% effaced and soft, and that the fetus is at 0 station and vertex. The fetal heart rate has a baseline of 140/min and is reactive. The results from a 24-hour urine collection show 5200 mg of protein (normal <300 mg/24 hours). The patient is given magnesium sulfate intravenously for seizure prophylaxis. Which of the following is the most appropriate next step in the management of this patient?

1. Expectant management
2. Intramuscular glucocorticoids
3. IV oxytocin
4. Subcutaneous terbutaline
5. Cesarean section

INCORRECT

The correct answer is 3.

This patient has the symptoms, signs, and laboratory values consistent with severe preeclampsia. Preeclampsia is diagnosed on the basis of hypertension, edema, and proteinuria. A patient is considered to have severe preeclampsia when she has any of the followingmanifestations:1) headache, visual changes, or grand-mal seizure (eclampsia); 2) blood pressure greater than 160-180mm Hg systolic or 110 mm Hg diastolic;3) pulmonary edema;4) right upper quadrant pain or elevated liver function tests; 5) oliguria (5 g/24 hours); 6) microangiopathic hemolytic anemia or thrombocytopenia; and 7) oligohydramnios or fetal intrauterine growth restriction. This patient meets the criteria of severe preeclampsia on the basis of her headache and her 24-hour urine with greater than 5 g of protein in 24 hours. The only cure for preeclampsia is delivery of the fetus. With a favorable cervix and a history of two prior normal spontaneous vaginal deliveries, this patient would be an excellent candidate for labor induction with IV oxytocin.

(Choice 1) There is no role for expectant management in the treatment of severe preeclampsia after 32 weeks. Some physicians choose to follow expectant management with women with severe preeclampsia prior to 32 weeks to allow for the administration of glucocorticoids and maturation of the fetus. This patient, however, is at 38 weeks' gestation; therefore, expectant management would not be appropriate.

(Choice 2) Glucocorticoids given to the mother have been shown to be effective in preventing certain sequelae of prematurity in the neonate. Maternal steroids have been shown to reduce the incidence of respiratory distress syndrome (RDS), intraventricular hemorrhage (IVH), and necrotizing enterocolitis (NEC). They have also been shown to reduce perinatal mortality. This patient, however, is at 38 weeks' gestation and therefore not having a premature delivery. Thus, administration of glucocorticoids would not be appropriate.

(Choice 4) is used as a uterine relaxant in cases of preterm labor or uterine tetany (prolonged contraction of the uterus). It would have no role in this patient.

(Choice 5) would not be considered the mode of choice for the delivery of a patient with severe preeclampsia with two prior vaginal deliveries and a favorable cervix. Severe preeclampsia at 38 weeks' gestation is certainly an indication for delivery, but vaginal delivery would be preferred over cesarean section in this patient.

81. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old primigravid woman is admitted to the labor and delivery ward with strong contractions every 2 minutes and cervical change from 3 to 4 cm. Over the next 5 hours she progresses to full dilation. After 3 hours of pushing, the physician cuts a mediolateral episiotomy, and the woman delivers a 3770-g (8-lb, 4-oz) boy. Which of the following is the main advantage of a mediolateral episiotomy over a median (midline) episiotomy?

1. Easier surgical repair of the episiotomy
2. Improved healing of the episiotomy
3. Less blood loss
4. Less likely to cause a fourth-degree extension
5. Less pain

INCORRECT

The correct answer is 4.

A mediolateral episiotomy is made from the introitus at a 45-degree angle from the midline. Its main advantage over the median episiotomy, which starts from the introitus and goes down the perineum in the midline, is that the mediolateral episiotomy is less likely to result in a fourth-degree extension, which is a tear of the tissues from the vaginal mucosa to and through the rectal mucosa.

(Choices 1,2,3 & 5) Easier surgical repair of the episiotomy, improved healing of the episiotomy, less blood loss, and less pain are all characteristics of the median episiotomy and they are all advantages that the median episiotomy has over the mediolateral episiotomy. Again, however, the main advantage of the mediolateral episiotomy is that it is less likely to result in a fourth-degree extension.

82. Question **1 points**

Category: Obstetrics & Gynaecology

A 51-year-old woman, gravida 4, para 4, presents to the outpatient office complaining of painless, continuous leakage of clear fluid through her vagina. She had initially come to the clinic for an annual examination, at which time a Pap smear was obtained for cervical cancer screening. The report came back “consistent with cancer.” Colposcopy was performed, showing a lesion on the anterior cervix with abnormal vessels. A cervical biopsy was performed, with the histology report stating “squamous cell carcinoma with invasion of 6 mm but no vascular or lymphatic involvement.” Bimanual pelvic examination did not reveal any vaginal lesions or broad ligament masses. She underwent a radical hysterectomy 3 weeks ago. Which of the following tests would best assess the cause of the complaint?

1. Cystometric studies
2. Urine culture
3. Intravenous (IV) indigo carmine
4. Pelvic ultrasonography
5. Urethral pressure measurements

INCORRECT

The correct answer is 3.

The clear fluid leaking through the patient’s vagina is probably urine. The history of painless, continuous vaginal leakage of urine with a recent pelvic surgery suggests the diagnosis of a fistula between the vagina and the urinary tract. Fistulas between the urinary tract and reproductive tract occur more frequently after radical pelvic surgery or pelvic radiation therapy. Intravenous (IV) indigo carmine, which is excreted in the urine and discolors a vaginal tampon, is the diagnostic modality of choice.

(Choices 1,2,4 & 5) The other choices contribute nothing toward ruling out a fistula. Cystometry assesses bladder pressure-volume relationships. Urine culture identifies a urinary tract infection. Pelvic sonography looks for pelvic masses. Urethral pressure measurements are helpful in working up genuine stress incontinence.

83. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-old primigravid female at 38 weeks’ gestation was admitted to the delivery room for management of labor. She was in active labor for 4-hours during which her cervical dilation progressed from 3 cm to 8 cm, and descent progressed from -1 to + 1 station. Examination 6-hours later showed the same degree of dilation and descent. The fetal head is in the Left Occipito

Anterior (LOA) position. An external tocometer is placed and reveals contractions 3 min apart, lasting 50 seconds each. Internal pelvic assessment shows prominent ischial spines. Feta l heart monitoring shows a baseline of 140 bpm with frequent accelerations. Prenatal ultrasound at 37-weeks showed a fetus of average size. Which of the following is the most appropriate next step in management?

1. Forceps application
2. Low-transverse C. section
3. Administer IV Oxytocin
4. Close observation for 2 more hours
5. Zavanelli maneuver

INCORRECT

The correct answer is 2.

This patient has an arrest disorder of dilation and descent, which are defined by an arrest in dilation superior to 2 hours in the former, and an arrest in descent superior to 1 hour in the latter. They can be caused by hypotonic contractions, conduction anesthesia, excessive sedation, cephalopelvic disproportion or malpresentation. In the present case, the arrest is resulting from a midpelvic contraction indicated by the prominence of the ischial spines. The management in this case is C. section.

(Choice 1) Forceps cannot be used because the cervix is not fully dilated.

(Choice 3) IV oxytocin exposes the patient to the risk of uterine rupture because of the presence of a pelvic obstacle.

(Choice 4) Since there is an obstacle to the fetus' passage through the birth canal, observation is useless in this case, and only exposes to fetal distress.

(Choice 5) Zavanelli maneuver is used as a last resort in case of shoulder dystocia. It consists of pushing back the baby into the uterine cavity followed by a cesarean section.

84. Question

1 points

Category: Obstetrics & Gynaecology

An obstetric sonogram is performed on a 22-yearold woman, gravida 2, para 1, who is at 30 weeks' gestation by dates and confirmed by early first-trimester ultrasound crown–rump measurements 9 weeks' gestation. Her pregnancy is complicated by gestational diabetes diagnosed at 26 weeks' gestation, which is being managed by diet alone. Her home blood glucose monitoring shows the following mean values: fasting 85 mg/dL; 1 hour post-meal, <130 mg/dL. The sonogram reveals an

anterior-fundal placenta and a normal amniotic fluid volume. There is a single fetus with the head in the right upper quadrant, with his back to the mother's left. Both fetal thighs are flexed and both legs are extended. In this case, which of the following is the correct fetal presentation?

1. Transverse breech
2. Complete breech
3. Double-footling breech
4. Incomplete breech
5. Frank breech

INCORRECT

The correct answer is 5.

The fetal presentation in this case is a frank breech. In frank breech, the thighs are flexed and the legs are extended. This is the only kind of breech in which vaginal delivery may be safely considered. Breech presentation occurs when the fetal buttocks or lower extremities present into the maternal pelvis, a finding in 3%–4% of deliveries. Breech presentation is more common in premature fetuses, and uterine and fetal anomalies. A major concern with vaginal delivery of fetuses in breech presentation is fetal head entrapment due to inadequate time to mold to the maternal pelvis. Trauma could result to the neck and arms with hasty delivery, and if the fetal head is hyperextended, cervical spine injury could result, with tragic consequences. For these reasons, many breech fetuses are delivered by cesarean section.

(Choice 1) is not a medical term, but transverse lie is.

(Choice 2) In complete breech both thighs and knees are flexed. However, if one lower limb is extended at the hip and the knee joints instead, it is called a footling breech.

(Choice 3) On the other hand, in double-footling breech, both lower extremities are extended at the hip and the knee joints.

(Choice 4) occurs when one or both thighs are extended at the hip joint only and one or both knees are flexed and lie below the buttocks.

85. Question **1 points**

Category: Obstetrics & Gynaecology

A 30-year-old woman, gravid a 3, para 2, at 26 weeks gestation comes to the physician because of a decrease in fetal movements. She has felt few fetal kicks the past 20 hours. Her prenatal course, prenatal tests and fetal growth have been normal. She has chronic hypertension and is now taking methyldopa and labetalol. Her previous pregnancies were uncomplicated and both delivered vaginally. She does not use tobacco, alcohol or drugs. Fetal heart tones are heard by Doppler. Non-stress test is reactive. Which of the following is the most appropriate next step in management?

1. Repeat non-stress test weekly
2. Perform contraction stress test
3. Biophysical profile
4. Give vibroacoustic stimulation
5. Deliver the baby immediately

INCORRECT

The correct answer is 1.

In the presence of decreased fetal movements, fetal compromise should be suspected and the best next step in management is a non-stress test (NST). NST is usually performed in high risk pregnancies starting at 32-34 weeks gestation or when there is a decrease in fetal movements in any pregnancy. NST is carried out by recording the fetal heart rate while monitoring for spontaneous perceived fetal movements. A test is considered reactive (normal) if in 20 minutes 2 fetal heart rate accelerations of at least 15 beats per minute above the baseline lasting at least 15 seconds each are noted. If less than 2 accelerations are noted in 20 min, the test is nonreactive (abnormal) and further assessment is required. The most common cause of a nonreactive NST is a sleeping baby, not a diseased baby, so vibroacoustic stimulation is used to wake the baby up and allow a timely test.

(Choice 2) Contraction stress testing (Oxytocin challenge test) is invasive and is not needed in this patient since NST is normal.

(Choice 3) Biophysical profile (BPP) is used if the NST is nonreactive despite vibroacoustic stimulation.

(Choice 4) Vibroacoustic stimulation is used after a non-reactive NST to avoid further testing, especially in low-risk pregnancies.

(Choice 5) The pregnancy is still not at term and the NST is reassuring, therefore, the fetus should not be delivered.

86. Question **1 points**

Category: Obstetrics & Gynaecology

A 37-year-old woman presents for evaluation of infertility. She and her 39-year-old husband have not been able to conceive after 9 months of unprotected and frequent intercourse. She had one pregnancy with her husband when she was 31 . She has 28-day regular menstrual cycles and enjoys frequent sexual intercourse. She has no other complaints. She denies any previous history of sexually transmitted diseases or abdominal surgery. She does not use tobacco, alcohol or drugs.

She has been working as an aerobic teacher and teaches two 30 minute classes every day. Her blood pressure is 130/80 mmHg and her pulse is 84/min. Her BMI is 23 Kg/m2. Complete physical examination is unremarkable. Which of the following is most likely cause of her condition?

1. Intense exercise
2. Hypothyroidism
3. Premature ovarian failure
4. Adrenal hyperplasia
5. Oocyte aging

INCORRECT

The correct answer is 5.

The patient described does not meet the strict definition of infertility as she has not been attempting to become pregnant for more than one year. Given this fact and the fact that the patient is still experiencing regular menstrual cycles, this patient is most likely having trouble conceiving because of her age. An inverse relationship exists between increasing age and decreasing fertility. Women are born with their full complement of oocytes, and as they age, this oocyte reserve slowly depletes. At birth, a woman possesses approximately 3 million oocytes, but by puberty this number is typically decreased to about 300,000. A significant drop in oocyte number (ovulatory reserve) takes place during a woman's fourth decade. One in five women aged between 35 and 39 is no longer fertile. Infertility due to aging can be assessed using an early follicular phase FSH level, a clomiphene challenge test or an inhibin-8 level.

(Choice 1) Intense exercise sufficient to induce anovulation would also most likely result in amenorrhea. Patients at the greatest risk of exercise-induced infertility are long-distance runners. 30 – 60 minutes of daily aerobic exercise is considered normal and desirable.

(Choices 2 & 4) Endocrine disorders such as hypothyroidism and adrenal hyperplasia can be associated with anovulation.

(Choice 3) Premature ovarian failure refers to ovarian failure before the age of 40. Premature ovarian failure causes amenorrhea and can be caused by autoimmune conditions, heritable factors, and exogenous factors such as radiation exposure and as an idiopathic condition.

87. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman, gravida 2, para 1, at 8 weeks' gestation, comes to the physician for her first prenatal visit. Past obstetric history is significant for induction at 28 weeks for severe preeclampsia, with delivery via classic cesarean section for non-reassuring fetal heart rate tracing. Past medical

and surgical histories are otherwise unremarkable. She takes prenatal vitamins and has no known drug allergies. The patient wants to know which mode of delivery will be used this pregnancy. Which of the following is the correct response?

1. Cesarean delivery is contraindicated
2. Forceps-assisted vaginal delivery is recommended
3. Vacuum-assisted vaginal delivery is recommended
4. Vaginal birth is contraindicated
5. Vaginal birth is not contraindicated

INCORRECT

The correct answer is 4.

A patient with a prior cesarean delivery is at increased risk of uterine rupture. When the prior uterine scar is from a classic cesarean delivery (i.e.; a vertical uterine incision involving the upper, contractile portion of the uterus), the risk of uterine rupture with labor is approximately 12%. With such a high risk of uterine rupture, patients who have had a previous classic cesarean delivery are not allowed to have a VBAC (vaginal birth after cesarean). Vaginal birth is contraindicated. In contrast, patients with a prior low transverse uterine incision or low vertical uterine incision have a much lower rate of uterine rupture (around I % to 2 %); these patients are allowed a trial of labor.

(Choice 1) To state that cesarean delivery is contraindicated is incorrect. Cesarean delivery is, in fact, mandated in patients with a prior classic cesarean delivery, and it is vaginal delivery that is contraindicated,

(Choices 2 & 3) To state that forceps-assisted vaginal delivery is recommended or that vacuum-assisted vaginal delivery is recommended is not correct. Vaginal delivery of any type is contraindicated in a woman with a prior classic cesarean delivery.

(Choice 5) To state that vaginal birth is not contraindicated is incorrect. As explained above, vaginal birth is contraindicated after a prior classic cesarean delivery.

88. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman comes to her physician on the same date each year for her examination and Pap smear. One week later, the Pap smear result is returned as atypical squamous cells of undetermined significance (ASCUS). Which of the following is the most appropriate next step in management?

1. Repeat Pap smear in 1 week
2. Repeat Pap smear in 3 months
3. Repeat Pap smear in 1 year
4. Repeat Pap smear in 2 years
5. Perform cervical cone biopsy

INCORRECT

The correct answer is 2.

ASCUS is a cytologic diagnosis used to describe abnormal cells that do not fit the criteria for low- or high-grade squamous intraepithelial lesion (LGSIL or HGSIL). Although most patients with ASCUS will have normal follow-up Pap smears, a significant proportion (approximately25%) will have dysplasia. Thus, a patient with ASCUS should have a repeat Pap smear in 3-6 months. If the patient is not reliable and may be lost to follow-up, then colposcopy should be performed immediately. This patient is reliable and can therefore be followed with a repeat Pap smear in 3 months.

(Choice 1) would not be appropriate. This is not a sufficient time interval to correctly determine resolution or persistence of the ASCUS. Three months, however, is adequate. If the ASCUS persists after 3 months, then it is truly a persistent finding.

(Choices 3 & 4) A repeat Pap smear in I year or 2 years is not appropriate because the time interval is too long. Some Pap smears that are read as ASCUS will be discovered to be from an HGSIL or worse. Therefore, waiting longer than 3-6 months to repeat the Pap smear is not appropriate.

(Choice 5) is not appropriate. Cone biopsy is indicated in certain circumstances when premalignant or malignant lesions are found. ASCUS represents cells of undetermined significance and not Premalignant or malignant cells. Therefore, jumping to cone biopsy in this patient would not be appropriate.

89. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old male comes for evaluation of infertility. He has been healthy and otherwise has no complaints. He says the he eats a high protein diet and exercises daily in order to be muscular. He weighs 85 kg (187 lb) and is 175 cm (70 in) tall His temperature is 37.2 °C (98.9 °F), and his blood pressure is 130/82 mm Hg. Physical examination shows small testes. The remainder of the examination is unremarkable. Initial laboratory studies show:

Hemoglobin: 16.0 g/L
Platelets: 200,000/mm3
Leukocyte count: 4,500/mm3
Serum creatinine: 1 A mg/dl
Serum LH: low
Serum testosterone: low

Which of the following is the most likely cause of his infertility?

1. Klinefelter syndrome
2. Mumps orchitis
3. Exogenous steroid use
4. Myotonic dystrophy
5. Varicocele

INCORRECT

The correct answer is 3.

The patient described is most likely abusing anabolic steroids (testosterone analogs). Adverse effects associated with anabolic steroid abuse include acne, erythrocytosis, gynecomastia, azoospermia, decreased testicular size, cholestasis, hepatic failure and dyslipidemia. Behavioral effects include aggressiveness and psychotic symptoms. The mechanism for azoospermia in men abusing these agents it likely a decrease in GnRH production by the hypothalamus due to feedback inhibition by the exogenous testosterone analog. Decreased GnRH leads to decreased LH and FSH production; LH and FSH are trophic on the testes and are required for normal hormone and sperm production by the testes.

(Choice 1) Klinefelter syndrome (XXY seminiferous tubule dysgenesis) is an inherited disorder characterized by testicular fibrosis (primary hypogonadism), azoospermia, gynecomastia, decreased intelligence and decreased axial skeletal growth. FSH and LH will be high.

(Choice 2) Mumps orchitis is a potential cause of infertility. It is characterized by acute testicular pain and inflammation during the acute viral illness.

(Choice 4) Myotonic dystrophy is characterized by testicular atrophy as well as widespread muscular atrophy and weakness.

(Choice 5) Varicocele results in scrotal swelling with a “bag of worms” sensation on palpation.

90. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman comes to the physician seeking advice. Last night, while she was having sexual intercourse, the condom broke. She is very concerned that she may become pregnant and wants to know whether she can do anything at this point. She has no medical problems and has never had surgery. She takes ibuprofen for dysmenorrhea. She is allergic to sulfa drugs. On physical examination, she is anxious and intermittently sobbing. Her temperature is 37.0 C (98.6 F), blood pressure is 140/90 mm Hg, pulse is 98/min, and respirations are 24/min. The remainder of her physical examination is unremarkable. A urine pregnancy test is negative. Which of the following is the most appropriate pharmacotherapy?

1. Clomiphene
2. Gentamicin
3. Labetalol
4. Norgestrel/ethinyl estradiol
5. Trimethoprim-sulfamethoxazole

INCORRECT

The correct answer is 4.

Postcoital contraception is a safe and highly effective method of preventing pregnancy. It is useful to check a pregnancy test prior to giving any treatment to ensure that the patient is not already pregnant. One of the most common methods of postcoital contraception is to administer norgestrel/ethinyl estradiol (Ovral). Ovral is given as 2 tablets stat and then 2 more tablets 12 hours later. This regimen is close=s, to 99% effective in preventing pregnancy when given within 72 hours. Ovral would be the most effective pharmacotherapy for this patient. There is a high incidence of nausea and vomiting with this regimen; antiemetics may be required.

(Choice 1) works as an anti-estrogen. It is used to increase FSH levels and induce ovulation in infertile patients. It is not used for postcoital contraception.

(Choice 2) is an IV antibiotic most commonly used against gram-negative organisms. This patient may be at risk for sexually transmitted disease (STD) given that the condom broke. It is important to' discuss the issue of STD with the patient and to decide whether prophylactic antibiotics will be given. However, IV gentamicin is not used for antibiotic prophylaxis.

(Choice 3) is an alpha-1and nonselective beta-blocker. It is used commonly in pregnancy to treat hypertension. This patient has no history of hypertension. Her blood pressure is only mildly elevated and it is probably elevated during this visit because of anxiety. She should have follow-up blood pressure checks, but labetalol would not be indicated at this point.

(Choice 5), also known as Bactrim, is used to treat infections. Among its most common uses is to treat urinary tract infections. As discussed above, this patient may require antibiotic prophylaxis because of her exposure. However, Bactrim is not typically used for

STD prophylaxis. Furthermore, this patient has an allergy to sulfa drugs, which would make trimethoprim-sulfamethoxazole contraindicated.

91. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old primigravid woman at 10 weeks gestation is brought to the emergency department because of vaginal bleeding. She has colicky pain in the suprapubic region radiating to the back. Her temperature is 37.0 °C (98.7 °F), blood pressure is 110/76 mmHg, pulse is 84/min and respirations are 14/min. Physical examination shows a dilated cervix and products of conception are seen through it. Blood for grouping and typing is sent. The patient is treated appropriately, and all products of conception are evacuated. She is stabilized and transferred to the ward. Laboratory studies there show:

Hematocrit: 33%
WBC: 6,000/mm3
Blood type: AB; Rh negative
Antibody titer: 14

Which of the following is the most appropriate next step in management?

1. Monitor coagulation profile
2. Administer RhoGAM
3. Obtain karyotyping of the mother
4. Screening for TORCH infections
5. Order anti-nuclear antibodies

INCORRECT

The correct answer is 2.

This patient is at risk of developing Rhesus isoimmunization. Rhesus isoimmunization occurs when Rhesus positive (D antigen-positive) fetal blood enters the bloodstream of a Rhesus-negative (D antigen-negative) mother. This contact results in the production of Anti-Rhesus IgG antibodies by the mother that pass through the placental barrier and cause fetal hemolysis. This hemolysis manifests in severe cases with fetal congestive heart failure and ultimately hydrops fetalis. It is difficult to prevent the passage of fetal blood into the maternal circulation; therefore, the best treatment of Rhesus isoimmunization is prevention. Administration of Anti-D gamma globulin (RhoGAM) prevents isoimmunization by binding the 0 antigens on fetal blood in the maternal circulation thereby preventing the mother's immune system from reacting to them. If a mother is not sensitized (antibody titers< 1 :6), RhoGAM is

indicated and should be administered to all Rh-negative women at 28 weeks gestation, and within 72 hours of any procedure or incident, such as abortion, ectopic pregnancy and delivery. If a mother is already sensitized (antibody titers greater than or equal to 1: 6) administration of RhoGAM is not helpful and close fetal monitoring for hemolytic disease is required.
(Choice 1) Coagulation profile monitoring is useful during the abortive process while the products of conception are still retained in the uterine cavity. It is of no use now that the uterus has been evacuated.
(Choice 3) Parental karyotyping, anticardiolipin antibodies and lupus anticoagulant are typically checked in cases of recurrent pregnancy loss.
(Choice 4) TORCH screening can also be considered in patients with recurrent pregnancy loss.
(Choice 5) ANA measurement is appropriate when a patient has clinical stigmata of SLE. It is sometimes done in cases of recurrent abortion.

92. Question **1 points**

Category: Obstetrics & Gynaecology

A previously healthy 50-year-old gravid a 5, para 4, woman comes to the physician complaining of passing small amounts of urine while sneezing or coughing for the past five months. She denies any episodes of weakness, numbness or fecal incontinence. There is no history of dysuria, increased frequency of urination, or hematuria. Her symptoms are progressively getting worse. Her other medical problems include diabetes mellitus-type 2 diagnosed 3 years ago, treated with glyburide 2.5mg/day. She does not use tobacco, alcohol, or drugs, and has no known drug allergies. She mentions that she is an avid jogger, but her problem causes her significant embarrassment. She now has to wear absorbent pads while jogging. Her vital signs are within normal limits. On examination, the abdomen is soft. Neurological examination is within normal limits. Pelvic examination shows a cystocele. The patient's labs reveal:

Urine: 1.020
Specific gravity: negative
Blood: negative
Glucose: negative
Leukocyte esterase: negative
Nitrites: negative
WBC: 5-10/hpf
Bacteria: none

Random blood sugar is 120 mg/dl. Which of the following is the most likely cause of her symptoms?

1. Detrusor instability

2. Bladder irritation from a neoplasm
3. Interstitial cystitis
4. Overflow incontinence due to detrusor weakness
5. Pelvic floor muscle weakness

INCORRECT

The correct answer is 5.

Stress incontinence is a common cause of incontinence in older women, high parity being one of the major risk factors. A high number of vaginal deliveries may lead to pelvic floor muscle weakness over a period of time. The proximal urethra prolepses outside the pelvis due to pelvic relaxation, so whenever there is a rise in intraabdominal pressure (e.g. coughing, sneezing, laughing), bladder pressure rises and urine is simultaneously lost in small amounts. Aggravating factors for stress incontinence include morbid obesity, pregnancy, COPD and smoking. Diagnosis is usually based on the history and physical examination showing evidence of pelvic floor weakness such as uterine prolapse and/or cystocele. Urine analysis, cystometry and postvoid residual volume are normal. Therapy includes Kegel exercises, pessaries and estrogen replacement (in postmenopausal women). Surgical treatment includes the Burch procedure and sling procedures; these offer the highest cure rates, but are associated with a potential for morbidity.

(Choices 1, 2 & 3) Detrusor instability, bladder irritation from a neoplasm, and interstitial cystitis result in urge incontinence, which causes sudden and frequent loss of moderate to large amounts of urine. This is often accompanied by nocturia and frequency. Since the patient does not complain of dysuria, frequency and urgency, and since the urine analysis is normal, it is unlikely that interstitial cystitis is the diagnosis.

(Choice 4) Diabetic neuropathy causes overflow incontinence, which is characterized by loss of small amounts of urine from an over distended bladder, and a markedly increased residual volume. Patients usually have a long history of diabetes that is not well controlled.

93. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman, gravid a 2, para 1 , at 26 weeks' gestation comes to the physician complaining of aching and swelling in both legs. The aching of her legs is worst at night. She has no shortness of breath or chest pain She has no past medical history. Her temperature is 36.9 °C (98.2 °F), blood pressure is 110/70 mm Hg, and pulse is 78/min. Physical examination shows symmetrical pitting edema of both calves with no tenderness of either calf. Urinalysis shows no abnormalities. Which of the following is the most appropriate next step in management?

1. Doppler ultrasonogram of both lower extremities
2. Admit for monitoring of her condition
3. Start low molecular weight heparin
4. Reassurance and routine follow-up
5. Order echocardiogram and serum albumin levels

INCORRECT

The correct answer is 4.

This patient most likely has benign edema of pregnancy. Leg cramps and mild leg edema are very common and occur in about one-third of normal pregnancies. Symptomatic deep venous thrombosis (DVT) typically presents with some combination of fever, unilateral leg pain, swelling, redness and calf tenderness. Even though the presentation of DVT can vary, bilateral edema (especially in a pregnant female) is most likely the result of benign edema of pregnancy, rather than a DVT. Preeclampsia may also present with bilateral leg edema, but the absence of hypertension or proteinuria makes preeclampsia unlikely in this patient. Therefore, this patient can be reassured and scheduled for routine follow-up.

94. Question **1 points**

Category: Obstetrics & Gynaecology

A 55-year-old Caucasian woman, who has a chronic cough from a 30 pack-year history of smoking, complains of pelvic pressure symptoms. The problem began gradually over the last 2 years. She states that when she increases intraabdominal pressure in having a bowel movement, a mass appears at her vaginal opening. It has been 3 years since her last menstrual period. She is not taking estrogen replacement therapy. She does complain of constipation and has difficulty in stool evacuation, having to press her fingers on her vagina to evacuate her stool. She had three vaginal deliveries, the largest infant weighing 4,500 g (9 lb 15 oz). Her postvoiding residual is 60 mL. Which one of the following physical findings would be most likely on pelvic examination?

1. Rectocele
2. Cystocele
3. Enterocele
4. Urethrocele
5. Vaginocele

INCORRECT

The correct answer is 1.

The patient in this scenario has many risk factors for pelvic relaxation: she is white, postmenopausal without estrogen replacement; multiparous and has delivered at least one large infant; and, she has a long history of smoking. However, her symptom of difficulty in stool evacuation is more referable to lower posterior vaginal relaxation due to a rectocele that contains the rectum. The diagnosis is made on the basis of inspection at the time of pelvic examination, when the patient is asked to cough or perform the Valsalva maneuver (increasing intraabdominal pressure). Management is posterior vaginal repair (colporrhaphy). **(Choices 2,3,4 & 5)** Incorrect options include a cystocele (an upper anterior vaginal relaxation that contains the bladder). This is the most common finding with vaginal wall relaxation and may be associated with urinary stress incontinence. An enterocele (an upper posterior vaginal relaxation that contains the small bowel), is a more uncommon finding and is associated with rather nonspecific symptoms. A urethrocele (a lower anterior vaginal relaxation that contains the urethra) may also be associated with urinary incontinence but does not cause defecation symptoms. Vaginocele is a spurious distracter.

95. Question **1 points**

Category: Obstetrics & Gynaecology

A 33-year-old woman, gravida 4, para 3, presents to the obstetric unit at 29 weeks' gestation by dates with painless vaginal bleeding. The bleeding began 2 hours ago and has been accompanied by passage of a significant amount of blood and clots. An intravenous infusion of normal saline is in place. No record of her prenatal obstetric ultrasound examination is available. Her vital signs are as follows: temperature, 37.4°C (99.3°F); pulse, 105/min; respiration, 16/min; blood pressure, 100/70 mm Hg. The baseline fetal heart rate on electronic fetal monitoring is 150/min with frequent accelerations and no decelerations. Uterine contractions are absent, and the patient appears very anxious. Her last pregnancy was delivered by emergency cesarean section at 37 weeks' gestation due to double-footling breech presentation in labor. The type of uterine incision is unknown. Which of the following is the best working diagnosis?

1. Placenta previa
2. Abruptio placenta
3. Vasa previa
4. Bloody show
5. Uterine rupture

INCORRECT

The correct answer is 1.

Placenta previa is bleeding arising from a placenta abnormally implanted in the lower uterine segment. The bleeding is typically painless and is mediated by normal stretching of the lower uterine segment, which avulses the anchoring placental villi. This is seen in 0.5% of pregnancies at term.

(Choice 2) usually involves painful bleeding from a normally implanted placenta. Risk factors include severe preeclampsia, blunt abdominal trauma, and cocaine use. This is seen in 1% of pregnancies at term.

(Choice 3) Bleeding from vasa previa is of fetal origin, mediated by either spontaneous or artificial rupture of a fetal vessel traversing the membranes overlying the cervix. This is a rare finding. While the mother's vital signs remain stable, the bleeding from the fetoplacental circulation usually results in exsanguination of the fetus. The normal fetal heart rate with no decelerations rules this diagnosis out.

(Choice 4) is usually blood-tinged mucus from early cervical dilation and would not have significant clots.

(Choice 5), although rare, is often a catastrophic event for both mother and fetus and is never painless.

96. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old woman, gravida 4, para 3 at 38 weeks' gestation, comes to the labor and delivery ward because of contractions. Her prenatal course was significant for low maternal weight gain. She had a normal 18-week ultrasound survey of the fetus and normal 36-week ultrasound to check fetal presentation. Her blood type is 0 positive, and she is rubella immune. Three years ago, she had a multiple myomectomy. She takes prenatal vitamins and has no known drug allergies. She smokes one pack of cigarettes per day. Which of the following complications is most likely to occur?

1. Amniotic fluid embolism
2. Anencephaly
3. Macrosomia
4. Rh isoimmunization
5. Uterine rupture

INCORRECT

The correct answer is 5.
This patient, with a prior multiple myomectomy, would be at increased risk for uterine rupture. Uterine rupture is a rare, potentially catastrophic outcome in which there is complete separation of all layers of the uterine musculature. The most commonly cited risk factor is prior surgery involving the myometrium (e.g., prior c-section or myomectomy). However, uterine rupture may also be associated with blunt abdominal trauma, incorrect use of oxytocin, perforation with an intrauterine pressure catheter, grand multiparity, fetal malpresentation, or difficult delivery with forceps or breech extraction. The classic symptoms are severe abdominal pain with vaginal bleeding, although the presentation can vary. Fetal distress will often be found on electronic fetal monitoring. Management involves immediate laparotomy in cases where the suspicion for uterine rupture is high.
(Choice 1) is a very rare but potentially fatal occurrence in obstetrics. It is believed to occur when a significant amount of amniotic fluid enters the maternal circulation. The classic presentation
is with maternal respiratory distress, followed by cardiovascular collapse, hemorrhage, and coma. It is not clear what risk factors exist for the development of this syndrome, although some investigators have shown that many women with amniotic fluid embolism had allergy or atopy. This patient's history would not place her at particular risk for this rare outcome.
(Choice 2) is a neural tube defect in which there is an absence of development of the cranium and cerebral hemispheres. The defect can be diagnosed by ultrasound. The fetus appeared normal at the 18and 36-week ultrasounds and therefore would not be considered at risk for anencephaly.
(Choice 3) is associated with maternal diabetes and obesity. This patient's cigarette smoking puts her at greater risk for having a low birth weight infant.
(Choice 4) This mother is not considered to be at risk for Rh isoimmunization, as she is Rh positive.

97. Question **1 points**

Category: Obstetrics & Gynaecology

A 15-year-old girl who has had regular menstrual cycles since the age of 12 makes an appointment to see her primary care physician because of the development of sudden onset of abdominal pain. Physical examination reveals a tender mass in the left adnexa. A pregnancy test is negative. An ultrasound exhibits a mass lesion of the left ovary, with focal areas of calcification (increased density). Which of the following is the most likely diagnosis?

1. ○ Follicular cyst
2. ○ Mucinous cystadenoma
3. ○ Cystic teratoma
4. ○ Brenner's tumor

5. Serous cystadenoma

INCORRECT

The correct answer is 3.

Ovarian tumors are more likely to be benign than malignant in women younger than 45 years. They are classified into the following categories: surface-derived (65%–75% of tumors), germ cell (15%–20% of tumors), sex-cord stromal (3%–5% of tumors), and metastatic (5% of cases). Surface-derived cancers arise from coelomic epithelium and have the greatest number of malignant ovarian tumors. Germ cell tumors derive from primitive cells that differentiate along gonadal cell lines (e.g., dysgerminoma, most common malignant germ cell tumor), somatic cell lines (e.g., teratoma), and extraembryonic lines (e.g., yolk sac tumor, most common malignant germ cell tumor in children). Sex cord-stromal tumors derive from stromal cells and may be hormone-producing (e.g., estrogens, androgens). Breast cancer and stomach cancer are the most common cancers that metastasize to the ovaries. Risk factors for malignant tumors include nulliparity (increased number of ovulatory cycles increases the risk for surface-derived cancers), genetic factors (e.g., mutations of BRCA 1 and 2 suppressor genes), chromosomal aberrations (namely, Turner syndrome), and cigarette smoking. Oral contraceptives decrease the risk for surface-derived cancers by decreasing the number of ovulations.

There are varied clinical presentations for ovarian tumors. Malignant surface-derived tumors often spread by seeding and produce malignant ascites and increased abdominal girth. The ovaries of a postmenopausal woman are not usually palpable, because they undergo atrophy. Therefore, a palpable ovary in a postmenopausal woman is likely to be a primary ovarian cancer or an ovary with foci of metastatic cancer. Malignant pleural effusions are a common presentation of ovarian tumors. A number of ovarian tumors produce calcifications that are visible by x-ray; these include cystic teratomas (this case), gonadal-blastomas, and fibromas. Finally, ovarian tumors may present with signs of feminization (estrogen-secreting tumors, e.g., granulosa cell tumor) or masculinization (androgen-secreting tumors, e.g., Sertoli cell tumor). CA 125 is a tumor marker for surface-derived tumors.

The patient in this question has a cystic teratoma, which has undergone torsion, causing abdominal pain. Teratomas are the most common benign germ cell tumor. Common ectodermal derivatives include hair, sebaceous glands, teeth, and neuroepithelium. Examples of endodermal derivatives include gastrointestinal tissue and thyroid tissue. Common mesodermal derivatives include muscle, cartilage, and bone. Most of these derivatives are found in a nipple-like structure in the cyst wall called a Rokitansky tubercle. In rare cases, squamous epithelium in a teratoma may undergo malignant transformation and produce a squamous cell carcinoma. A struma ovarii type of teratoma has functioning thyroid tissue and is a rare cause of hyperthyroidism. The treatment for a cystic teratoma is surgical removal of the tumor.

(Choice 1) is the most common ovarian mass in young women. It is due to an accumulation of fluid in a follicle or previously ruptured follicle. These may rupture and produce a sterile peritonitis with abdominal pain. An ultrasound is useful in identifying the cyst. There are no calcifications.

(Choice 2) is a benign surface-derived tumor that is lined by mucous-secreting cells (recapitulates endocervical epithelium). An ultrasound shows a large, multiloculated tumor without calcifications.
(Choice 4) is a benign surface-derived tumor that contains Walthard rests (transitional-like epithelium). It is commonly associated with benign mucinous cystadenomas. An ultrasound shows a solid ovarian mass without calcifications.
(Choice 5) is the most common benign tumor of the ovaries. It is a surface-derived tumor that is commonly bilateral. It is lined by ciliated cells (recapitulates fallopian tube epithelium). An ultrasound shows a cystic mass without calcifications.

98. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman comes to your office complaining of an 8-week history of amenorrhea. She is sexually active and uses OCPs for contraception. Her medical history is unremarkable. She does not have any particular complaints except moderate fatigue and a decline in mood. She denies headaches, visual disturbances, or any gastrointestinal symptoms. She denies cigarette smoking or any drug use, and drinks alcohol socially. Breast examination reveals a white, milky secretion upon expression of both nipples. A pelvic examination reveals a uterus of normal size. BMI is 28 kg/m2. Initial investigations reveal a negative serum β-hCG level. According to these findings, which of the following is the most appropriate next step in the management of this patient?

1. Determine serum TSH level
2. Determine serum TRH level
3. Perform visual field study
4. Order sellar MRI
5. Order sellar CT scan

INCORRECT

The correct answer is 1.

Prolactin production is inhibited by dopamine and stimulated by serotonin and TRH. An increase in TSH and TRH production and, consequently, in prolactin release may be the result of hypothyroidism. Hyperprolactinemia may also affect GnRH and gonadotropin secretion and, thus, result in amenorrhea. Other causes of high prolactin levels include dopamine antagonists (antipsychotics, tricyclic antidepressants, and MAOIs), hypothalamic and pituitary tumors. In the present case, the patient is not under any dopamine antagonists

and has no clinical signs indicating the presence of a hypothalamic or pituitary tumor; therefore, the most appropriate next step in the management of this patient is to rule out the most benign etiology, that is, hypothyroidism, by measuring TSH.
(Choice 2) TRH is not useful in diagnosing hypothyroidism.
(Choices 3,4 & 5) Sellar MRI or CT scan, as well as visual field study, may all be useful if a hypothalamic or pituitary tumor is suspected. At this stage, hypothyroidism has to be ruled out first.

99. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman presents to the emergency department complaining of right lower quadrant pain and vaginal spotting. Her last menstrual period was 5 weeks ago. Her temperature is 37.0 C (98.6 F), blood pressure is 112/70 mm Hg, pulse is 74/min, and respirations are 14/min. THE abdomen is soft and nontender. Pelvic examination reveals scant blood in the vagina, a closed cervical os, no pelvic masses, and right pelvic tenderness. Her leukocyte count is 8000/mm^3, hematocrit is 38%, and a platelet count is 250,000/mm^3. Which of the following is the most appropriate step next in diagnosis?

1. Serum hCG
2. Serum TSH
3. Abdominal x-ray
4. Abdominal/pelvic CT
5. Laparoscopy

INCORRECT
The correct answer is 1.
A woman of childbearing age who presents with pain or vaginal bleeding must have a pregnancy test (urine or serum hCG) checked as one of the initial steps in her evaluation. Ectopic pregnancy is a potentially fatal condition in which a pregnancy develops outside of the uterus, most commonly in the Fallopian tube. The three most common presenting complaints for women with ectopic pregnancy are amenorrhea, abdominal pain, and vaginal bleeding. A woman may have an ectopic pregnancy and appear in no apparent distress with stable vital signs and a benign examination. Early diagnosis, however, is essential in ectopic pregnancy to avoid the significant morbidity and mortality that can result from an ectopic pregnancy that enlarges or ruptures.

(Choice 2) is an appropriate test to send as part of an outpatient evaluation of a woman who is having menstrual irregularities, because hypo or hyperthyroidism can cause irregular bleeding. In the case of a young woman with abdominal pain and irregular bleeding, however, it is essential to first determine whether she is pregnant.
(Choice 3) is a useful modality for identifying some types of kidney stones and gallstones, intestinal obstruction or perforation, and some abdominal masses. In this patient, however, the physician would want to know the result of the pregnancy test (hCG) prior to ordering a diagnostic study. If the hCG is positive in this woman with bleeding and abdominal pain, the appropriate diagnostic study would be pelvic ultrasound and not abdominal x-ray.
(Choice 4) is an effective study for identifying masses in the abdomen and pelvis. It tends to be used in cases in which the differential diagnosis includes appendicitis, abscess, or tumor. For this patient, however, the physician must determine whether she is pregnant prior to scheduling a diagnostic study.
(Choice 5) would not be an appropriate next step in the diagnosis, as it is too invasive a procedure to perform without first checking a serum or urine hCG, and using a diagnostic study to attempt to identify the cause of this woman's pain.

100. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old woman comes to the physician for follow-up after a recent spontaneous abortion at 14 weeks gestation. She had one other spontaneous first trimester abortion two years ago. She has no other medical problems and does not use tobacco, alcohol or drugs. Review of systems reveals photosensitivity and occasional hematuria. On examination, you observe a bilateral malar rash. What is the most likely pathophysiology for her abortions?

1. Lupus anticoagulant
2. Vasospasm
3. Chromosomal abnormalities
4. Disseminated intravascular coagulation
5. Infection

INCORRECT
The correct answer is 1.
This patient's presentation is suggestive of systemic lupus erythematosus (SLE). Her cutaneous findings of a malar rash and photosensivity are classic features of SLE, and the hematuria is suggestive of the development of renal disease from SLE. Antiphospholipid antibodies (such as lupus anticoagulant and anticardiolipin antibodies) are present in some

patients of SLE. These antibodies are associated with both arterial and venous thromboembolic disease. There is an association between antiphospholipid antibodies and recurrent fetal loss after 10 weeks gestation, and should be considered in any patient with recurrent fetal loss even without the typical presentation as described in this vignette. The effects of antiphospholipid antibodies on the developing fetus are multiple, but the effect that likely causes most fetal loss is thrombus development within the placenta.
(Choice 2) Vasospasm is the primary pathophysiologic cause of preeclampsia, which does have a higher incidence in women with SLE. However, the recurrent fetal loss seen with this patient is more consistent with antiphospholipid antibody syndrome.
(Choice 3) Chromosomal abnormalities can be a cause of first trimester abortions. However, this patient's other clinical features make SLE and antiphospholipid antibody syndrome the more likely diagnosis.
(Choice 4) Disseminated intravascular coagulation (DIC) can occur as an obstetric complication in patients with septic abortion. However, DIC is a consequence of the abortion and not the cause.
(Choice 5) Infections can be a cause of loss of a single pregnancy, but generally not multiple pregnancies.

101. Question **1 points**

Category: Obstetrics & Gynaecology

A 15-year-old girl is being evaluated for primary amenorrhea. She has no other symptoms. She has not been sexually active. She has no other medical problems and does take any medication. Her family history is unremarkable. On examination, you note fully developed breasts and absent axillary and pubic hair. External genitalia have a normal appearance, but the vagina is abnormally short and blind ended. Initial work-up reveals no uterus on ultrasound, a testosterone level of 400 ng/dl (Normal is 20-80 for a female), and a 46 XY karyotype. Which of the following events is most likely to have caused the absence of in utero development of the internal reproductive organs?

1. ○ Absence of mullerian inhibiting factor
2. ○ Presence of mullerian inhibiting factor
3. ○ Agenesis of Wolffian ducts
4. ○ Agenesis of mullerian ducts
5. ○ Testosterone surge

INCORRECT

The correct answer is 2.
Androgen insensitivity syndrome, sometimes called testicular feminization, is characterized by a defect or absence of androgen receptors resulting in androgen resistance of peripheral tissues. Consequently, patients have a female phenotype with a 46 XY genotype. There are still normal testes that are typically found in the abdomen or inguinal canal, and patients are prone to the development of inguinal hernias. The mullerian inhibiting factor (MIFJ is produced by the testes and prohibits formation of the uterus, fallopian tubes, and upper portion of the vagina. The testosterone level is elevated for a female, but within the normal range for a male. Breasts develop because of peripheral conversion of testosterone to estrogen, whereas axillary and pubic hair does not develop since it is dependent on testosterone. Treatment involves testicular resection at puberty and creation of a neo vagina.
(Choice 1) Absence of MIF secretion will result in development of normal female internal organs.
(Choice 3) Wolffian ducts are the embryonic precursors of seminal vesicles, epididymis, ejaculatory ducts, and ductus deferens in males.
(Choice 4) Patients with mullerian agenesis may present with primary amenorrhea and non-developed internal reproductive organs, but they have a normal XX karyotype with normal female levels of testosterone. Patients also have normal axillary and pubic hair development since they can respond appropriately to testosterone.
(Choice 5) A testosterone surge at the appropriate time of gestation can cause virilization of the external genitalia in female fetuses, but this patient has an XY genotype and normal female external genitalia.

102. Question **1 points**

Category: Obstetrics & Gynaecology

A 21-year-old primigravid woman at term presents to the physician because of lightheadedness. She states that she has noticed this feeling for the past 2 days. The lightheadedness comes on only when she is lying on her back. She notices it a short time after lying down. The episode resolves completely when she sits up or is standing. She does not notice the symptoms when she is lying on her side. Which of the following is the most likely cause of this patient's lightheadedness?

1. Atrial fibrillation
2. Fetal movement
3. Inferior vena cava compression
4. Pulmonary embolus
5. Ventricular tachycardia

INCORRECT

The correct answer is 3.

This patient has a presentation that is most consistent with the supine hypotensive syndrome of pregnancy. In late gestation, if a woman lies flat on her back, the gravid uterus can compress the inferior vena cava. This decreases cardiac return to the heart and thus decreases cardiac output. The most common symptom is lightheadedness. A small minority of patients may even experience fainting. The gravid uterus can also compress the aorta, resulting in hypotension in the arteries distal to the compression. The management of this supine hypotensive syndrome is to make sure that the patient does not have underlying cardiac, pulmonary, or neurologic disease and then to recommend that she stay on her side, in the left lateral position, when lying down.

(Choice 1) can also cause a feeling of lightheadedness. However, this patient experiences these symptoms only when lying down, and they promptly resolve when sitting or standing. Also, she has no complaints of heart palpitations, which patients with atrial fibrillation will often have.

(Choice 2) can cause the mother to experience a variety of symptoms. Women sometimes perceive fetal movement as contractions or abdominal pain. Fetal movement does not usually cause lightheadedness, and this patient has a presentation classic for supine hypotension syndrome.

(Choice 4) is a concern during pregnancy because of the relative “hypercoagulability” of pregnancy. Pulmonary embolus often presents with chest pain, palpitations, tachycardia, tachypnea, and cough or chest pressure. This patient has none of these complaints and has symptoms that promptly resolve with a change in position.

(Choice 5) is not very common in otherwise healthy young pregnant women with no history of heart disease. It may present with lightheadedness, but again, this patient’s history is much more consistent with supine hypotension syndrome.

103. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-old woman presents to the physician’s office for routine physical examination and Pap smear. She has no complaints. She has had 2 sexual partners in the past six months and takes oral contraceptive pills. She has no significant past medical history and takes no other medications. She has no known drug allergies. Her temperature is 37.2 °C (98.9 °F) and blood pressure is 120/72 mm Hg. Complete physical exam including pelvic examination is unremarkable. Cervical swab is sent for nucleic acid amplification of Chlamydia trachomatis and Neisseria gonorrhoeae. One week later, the nucleic acid amplification test returns positive for Chlamydia infection. The patient is still asymptomatic. What is the most appropriate next step in the management?

1. Repeat the test for confirmation

2. Reassurance and no treatment at this time
3. One dose of intramuscular ceftriaxone
4. Ceftriaxone and azithromycin
5. Single dose azithromycin

INCORRECT

The correct answer is 5.

Chlamydia is a very common cause of urethritis, cervicitis and vaginitis. Chlamydial infection is asymptomatic in 50% of men and 80% of women. The lack of symptoms may cause patients to go undiagnosed and untreated. Patients who lack a definitive diagnosis of Chlamydia and go untreated are at risk of developing complications such as pelvic inflammatory disease and infertility; they are also more likely to spread the disease to others. Considering the frequent absence of symptoms and the degree of contagiousness, sexually active patients should be screened regularly for Chlamydia, especially teenagers. The nucleic acid amplification test for Chlamydia is an effective screening method with sensitivity of 80-92% and specificity of approximately 99%. When a screening test is positive for Chlamydia, the patient as well as her sexual partners should be treated with a single dose of azithromycin or a course of doxycycline. If the test is negative for Gonorrhea then treating the patient for Chlamydia alone is acceptable.

(Choice 1) No confirmation of the test is needed since the specificity is so high.

(Choice 2) Treatment is needed in all cases of Chlamydia found through screening for the reasons mentioned above. Eighty percent of women are asymptomatic.

(Choice 3) Ceftriaxone does not cover Chlamydia, only Gonorrhea.

(Choice 4) Azithromycin is needed but ceftriaxone is unnecessary in this case.

104. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old woman, gravid a 3, para 2, at 38 weeks gestation is admitted to the hospital for labor pains. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 16th week showed no abnormalities and an intrauterine gestation consistent with dates. In her second pregnancy, she had to undergo cesarean section. The woman is admitted to the delivery room and fetal heart and uterine contraction monitoring is started. Her blood pressure is 100/60mmHg, pulse is 115/min and respirations are 26/min. Pelvic examination shows the cervix is 60% effaced and 6 cm dilated. Uterine contractions are regular and occurring every 4 minutes. Fetal heart tracing shows no abnormalities. Suddenly, the patient starts complaining of an intense lower abdominal pain. She is restless and vaginal bleeding is noted. Feta l heart monitoring shows variable decelerations, and the fetus has shifted to the '-2' station from '0' station. Which of the following is the most likely diagnosis?

1. Placental abruption
2. Vasa previa
3. Uterine rupture
4. Endometritis
5. Bladder distention

INCORRECT

The correct answer is 3.

The patient most likely has had a uterine rupture due to the uterine scar from her prior caesarian section. Uterine rupture typically presents with intense abdominal pain associated with vaginal bleeding. Hyperventilation, agitation, and tachycardia usually indicate an imminent rupture. After the rupture has occurred, the patient may feel slightly relieved, but soon after, the pain returns in a more diffuse fashion, the presenting part may retract and no longer be palpable on pelvic exam and the fetal limbs can become palpable on abdominal examination. A delivery by emergent caesarian section is indicated as the mother can readily exsanguinate due to uterine rupture leading to both maternal and fetal demise. Subsequent total abdominal hysterectomy is the treatment of choice to stop the bleeding in most instances. However, debridement and closure of the site of rupture can be considered in women with low parity who desire more children.

(Choice 1) Placental abruption is characterized clinically by abdominal and back pain and a hypertonic and tender uterus. Feta l station will not change. Common associations include hypertension and cocaine use.

(Choice 2) Vasa previa is a condition characterized by splitting of the umbilical vessels within the amniotic membrane away from the placenta. These vessels can tear during rupture of the membranes leading to fetal exsanguination. There are no maternal symptoms.

(Choice 4) Endometritis typically occurs in the postpartum period and is characterized by fever, a tender uterus, foul-smelling lochia and progression to sepsis if not treated early.

(Choice 5) Bladder distention can occur in the postpartum period due to trauma to the base of the bladder that interferes with normal voiding.

105. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old professional tennis player presents to your office with a 5-month history of amenorrhea. She describes an intense schedule of regular exercise, and says that she eats a balanced diet but avoids fatty foods. She does not smoke or consume alcohol. Her mother suffers from long-standing hypertension. The patient's BMI is 22 .5 kg/mm2. Pregnancy test is negative. The patient is at greatest risk for which of the following?

1. Decreased thyroid function
2. Decreased bone mineral density
3. Atypical endometrial hyperplasia
4. Poor glucose tolerance
5. Cholesterol precipitation in the gallbladder

INCORRECT

The correct answer is 2.

This patient has hypogonadotropic hypogonadism secondary to low FSH and LH concentrations, putting her at increased risk for osteoporosis. Hypogonadotropic hypogonadism can result from strenuous exercise, anorexia nervosa, marijuana use, starvation, stress, depression, and chronic illness. Excessive exercise is the most likely cause in this patient. Her BMI is not consistent with anorexia nervosa. Aside from amenorrhea, hypogonadotropic hypogonadism has several other complications. As FSH and LH drop, so too do sex hormones like estrogen and testosterone. This predisposes patients to osteoporosis and decreased muscle bulk. Patients will also often suffer from infertility.

(Choice 1) Hypogonadotropic hypogonadism can be the direct result of hypothyroidism, or can be the result of a condition that is simultaneously causing hypothyroidism. For example, pituitary pathology may cause decreased release of LH, FSH, and TSH. However, hypogonadotropic hypogonadism will not cause decreased thyroid function.

(Choice 3) Atypical endometrial hyperplasia can be seen in conditions associated with excessive levels of circulating estrogens or estrogen-like compounds.

(Choice 4) This patient has a normal BMI and exercises regularly, putting her at low risk for glucose intolerance, the pathologic underpinning of diabetes mellitus type 2.

(Choice 5) The classic risk factors for cholelithiasis are: age in 40s, overweight or obese, and female. This patient only has one risk factor for cholelithiasis.

106. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-oldnulligravid woman at 38 weeks, gestation comes to her physician because she has passed bloody mucus discharge. Her prenatal course was unremarkable including a normal 19-week ultrasound. On speculum examination, there are no vaginal or cervical lesions. On vaginal examination, the cervix is 2 cm dilated and 100% effaced, and the fetus is at + 1 station. The fetal heart rate has a baseline of 140 and is reactive. She has painful contractions every 2 minutes. One hour later the patient's cervix is 3 cm dilated, and a small amount of bloody mucus is noted on the examining glove. Which of the following is the most likely diagnosis?

1. Early labor
2. Placental abruption
3. Placenta previa
4. Urinary tract infection
5. Vasa previa

INCORRECT

The correct answer is 1.

Bleeding in the third trimester can be caused by a number of processes and must be taken very seriously by the physician. The differential diagnosis for third-trimester bleeding includes placenta previa, placental abruption, vasa previa (when fetal vessels course over the internal cervical os), cervical, vaginal, or vulvar lesions, hematuria, and hematochezia. Also on the differential is “bloody show:’ the bloody mucus that a woman in labor passes as she undergoes cervical dilation. This patient has regular, painful contractions, is passing bloody mucus, and is changing her cervix. These findings are most consistent with early labor.

(Choice 2) is characterized by vaginal bleeding, abdominal pain, and uterine contractions (or increased uterine tone). Fetal distress is seen in more than 50% of cases. The bleeding of an abruption is not bloody mucus but rather frank blood that is often dark red. This patient had bloody mucus, not frank blood, and consistent contractions with cervical change. Her signs and symptoms make labor, and not abruption, the most likely diagnosis.

(Choice 3) can also cause third trimester bleeding. Whereas abruption is typically characterized by painful vaginal bleeding, previa is classically characterized as painless vaginal bleeding. Diagnosis of a placenta previa is made by ultrasound. This patient had a normal ultrasound at 19 weeks’ gestation, with no evidence of previa; therefore, placenta previa would not be the most likely diagnosis.

(Choice 4) can present with hematuria. Typically it is a microscopic hematuria, not bloody mucus. Although this patient could have a urinary tract infection, given her signs and symptoms this is not the most likely diagnosis.

(Choice 5) occurs when the fetal vessels pass over the internal cervical os. Bleeding from vasa previa will lead to fetal distress evidenced by changes in the fetal heart tracing. Fetal tachycardia or bradycardia may be seen. When fetal anemia results, a sinusoidal heart rate is often seen. This patient has a reactive fetal heart tracing and a more likely cause for her bleeding (labor).

107. Question **1 points**

Category: Obstetrics & Gynaecology

A 43-year-old woman, gravida 3, para 2, abortus 1, complains of increasingly worsening pain with menses along with progressively heavier menstrual blood loss. Pelvic examination reveals an asymmetrically enlarged uterus that felt soft and boggy. Results of a quantitative serum β-human chorionic gonadotropin (β-hCG) test were negative. Her symptoms were unresponsive to medical therapy. She underwent a total abdominal hysterectomy with complete resolution of her symptoms. Which of the following statements is correct about her condition?

1. Endometrial glands are found within the myometrium.
2. Age at diagnosis is usually in the early reproductive years.
3. Surgical therapy is usually successful.
4. Fertility is unimpaired.
5. Diagnosis is made by pelvic examination.

INCORRECT

The correct answer is 1.

The case scenario is characteristic of adenomyosis, a benign condition, in which endometrial glands and stroma are found within the myometrium. Adenomyosis usually develops in the later {not earlier **(Choice 2)**} reproductive years.

(Choice 3) Surgical removal of the uterus is highly effective, not unsuccessful. The levonorgestrel-containing intrauterine contraceptive system (Mirena) is helpful in medical treatment of adenomyosis in some patients by decreasing menstrual blood flow.

(Choice 4) Fertility may be impaired if the site affected is in the region of the tubal ostia, a condition known as salpingitis isthmica nodosa.

(Choice 5) Although a physical examination finding of an enlarged, soft, boggy, tender, nonpregnant uterus may be suggestive of adenomyosis, the definitive diagnosis is based on histologic findings confirmed at the time of hysterectomy, not based on pelvic examination. A magnetic resonance imaging (MRI) study is strongly suggestive of adenomyosis if it demonstrates a symmetrically enlarged uterus.

108. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman comes to the physician with her husband because of vaginal irritation and a malodorous vaginal discharge. Her symptoms started 4 days ago. She also notes pain with intercourse and dysuria. Pelvic examination reveals vaginal and cervical erythema and a copious greenish, frothy discharge. The pH of this discharge is 6.0.A wet preparation is done with normal saline, which shows numerous flagellated organisms that are slightly larger than the surrounding white blood cells. Which of the following is the most appropriate management?

1. Do not treat the patient or her partner
2. Treat only the patient with metronidazole
3. Treat the patient and her partner with metronidazole
4. Treat only the patient with penicillin
5. Treat the patient and her partner with penicillin

INCORRECT

The correct answer is 3.

Trichomoniasis, a sexually transmitted disease, is a common cause of vulvovaginitis. It is caused by the organism Trichomonas vagina/is. The most common symptoms are a profuse, malodorous, frothy vaginal discharge and vaginal itch and pain. Occasionally patients will have dysuria, dyspareunia, and pelvic pain. Examination will demonstrate the copious, frothy discharge. The pH of this discharge will usually be equal to or greater than 6.0. On a normal saline smear, motile trichomonads will be seen in most symptomatic patients. The drug of choice to treat trichomoniasis is metronidazole, and it is imperative that both the patient and her partner be treated. They should refrain from intercourse until they have completed the treatment and are asymptomatic.

(Choice 1) Failing to treat the patient or her partner would not be an appropriate course of action. The patient has obvious trichomoniasis and therefore needs to be treated. Her partner also must be treated so that he does not continue to re-infect the patient if he is infected as well.

(Choice 2) Treating only the patient with metronidazole would leave her partner untreated. If he is infected and does not receive treatment, he may continue to infect her.

(Choices 4 & 5) Treating only the patient or the patient and her partner with penicillin would not be appropriate. Penicillin is not a drug of choice for trichomoniasis. The first-line treatment is metronidazole. If the patient cannot tolerate metronidazole, topical clotrimazole or boric acid may be tried.

109. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-old woman comes to the physician seeking advice regarding birth control options. She has multiple sexual partners. She has migraine headaches for which she occasionally takes acetaminophen or sumatriptan. She was hospitalized for pelvic inflammatory disease when she was 19. Physical examination is unremarkable. Urine hCG is negative. Which of the following is the most appropriate contraception option for this patient?

1. Condoms
2. Intrauterine device
3. Oral contraceptive pill
4. Rhythm method
5. Withdrawal method (coitus interruptus)

INCORRECT

The correct answer is 1.

This patient has two issues that must be addressed when considering a birth control option. The first is birth control. All of the options would address birth control, although the rhythm and withdrawal methods are not recommended because of their high failure rates. The second is prevention of sexually transmitted diseases (STDs). Of these options, only condoms can prevent the transmission of STDs. Along with the emphasis on condoms, this patient needs to be advised that her sexual behavior places her at risk for a number of STDs, including HIV, hepatitis B and C, herpes, Chlamydia, gonorrhea, syphilis, and trichomoniasis.

(Choice 2) The intrauterine device (IUD) would be absolutely contraindicated in this patient. Her prior history of pelvic inflammatory disease (PID) and current sexual behavior place her at increased risk for contracting an STD. STDs (most notably Chlamydia and gonorrhea) in the setting of an IUD can lead to severe PID, sepsis, and even death.

(Choice 3) The oral contraceptive pill (OCP) is an option for this patient. However, although use of the OCP will prevent pregnancy, it will do nothing to prevent STDs. Therefore, even if this patient does use the OCP, she must also use condoms.

(Choices 4 & 5) The rhythm and withdrawal methods are both associated with high failure rates. The rhythm method relies on timing intercourse during the period of the woman's cycle in which ovulation is unlikely. The withdrawal method relies on the male partner withdrawing from the vagina prior to ejaculation. Both have prohibitively high failure rates and do not provide good protection from STDs.

110. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman comes to the emergency department because of constant, severe lower abdominal pain. She also complains of fever and chills. Three weeks ago she had an intrauterine device (IUD) placed for contraception. Her temperature is 38.3 C (101.0 F), blood pressure is 110/76 mm Hg, pulse is 110/min, and respirations are 16/min. She has bilateral lower quadrant abdominal tenderness. On pelvic examination, she has cervical motion tenderness and bilateral adnexal tenderness. A urinalysis is negative. A pelvic ultrasound is negative, with normal uterus and adnexae and no free fluid. What is the most likely diagnosis?

1. Appendicitis
2. Hemorrhagic ovarian cyst
3. Ovarian torsion
4. Pelvic inflammatory disease (PID)
5. Pyelonephritis

INCORRECT

The correct answer is 4.

Pelvic inflammatory disease (PID) is an infection of the upper genital tract. It most often starts as a vaginal or cervical infection that then extends along the endometrium and eventually involves the fallopian tubes, adnexae, and parametrial tissues. In some cases it may involve the liver and diaphragm by causing perihepatic inflammation and adhesions (FitzHugh-Curtis syndrome). Patients often present with systemic illness, complaining of fever, chills, and myalgias, as well as with lower abdominal pain. To make the diagnosis, the patient should have the triad of abdominal tenderness, cervical motion tenderness, and adnexal tenderness. Along with this triad, the patient should also have a fever (>38 C), leukocytosis (> 11,000/mm3), or an adnexal mass. This patient clearly meets these diagnostic criteria. Also, this patient had an IUD placed recently, which is a well-established risk factor for PID.

(Choice 1) is a possible diagnosis here. However, it is not the most likely diagnosis given the patient's history and physical. Appendicitis often starts with periumbilical pain that becomes severe at McBurney's point. It is usually characterized by nausea, vomiting, and decreased appetite. On examination, the patient with appendicitis may have an elevated temperature, tenderness at McBurney's point, and cervical motion tenderness. Laboratory studies will often demonstrate an elevated white blood cell count. This patient, with her bilateral pain and tenderness, as well as her recent history of IUD placement, is more likely to have PID.

(Choice 2) can often present with abdominal pain and peritoneal signs. However, the pain is often of sudden onset as the cyst ruptures. Furthermore, ultrasound will reveal a cyst or free fluid in the pelvis, if the cyst has completely ruptured and drained.

(Choice 3) presents with severe abdominal pain, often along with nausea, vomiting, diaphoresis, and an acute abdomen. Torsion occurs when an adnexal mass causes the adnexa to twist on its pedicle, compromising the blood supply. In an adult, ovarian torsion is extremely unlikely when there is no adnexal mass present.

(Choice 5) usually presents with urinary complaints and back or flank pain, along with fever and chills. This patient has no urinary complaints, no costovertebral angle tenderness on examination, and a negative urinalysis.

111. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-old female comes to your office to review her daily prescription medications. She had a positive pregnancy test three days ago despite strict contraception. Her last menstrual period was 5 weeks ago. She is on albuterol and beclomethasone inhalers for bronchial asthma, isotretinoin for acne, and lithium for bipolar disorder. Her bipolar disorder has been stable for the past several years. She does not use tobacco, alcohol, or drugs. Physical examination shows no abnormalities; vital signs are stable. Which of the following is the most appropriate advice for this patient?

1. Ask her to stop beclomethasone and lithium
2. Ask her to stop beclomethasone, isotretinoin and lithium
3. Ask her to stop isotretinoin and wean lithium
4. Ask her to stop all 4 medications
5. Ask her to continue all 4 medications

INCORRECT

The correct answer is 3.

The use of lithium in the first trimester is associated with an increased risk of congenital heart disease, classically Ebstein's anomaly. In patients who have stable bipolar disease, slow tapering of lithium should be considered. Abrupt discontinuation is not recommended as this may increase the risk of relapse.

Isotretinoin is associated with many congenital abnormalities, including craniofacial dysmorphism, heart defects, and deafness. It must not be taken by women of reproductive age unless two effective forms of contraception have been used for at least 1 month prior to initiating treatment. Contraception must be continued during treatment, and for 1 month after isotretinoin is discontinued. In addition, patients must have a pregnancy test the week before beginning treatment, and should have periodic pregnancy tests during therapy, to make sure the patient is not pregnant.

(Choices 1 & 2) There is no evidence that inhaled beclomethasone or albuterol are associated with birth defects in humans. These can be safely used in pregnancy.

112. Question **1 points**

Category: Obstetrics & Gynaecology

A 50-year-old woman presents to your office complaining of severe insomnia, hot flashes, and mood swings. She also states that her mother had a hip fracture at 65 years of age. She is afraid of developing osteoporosis and having a similar incident. Her last menstrual period was six months

ago. Her past medical history is significant for hypothyroidism diagnosed seven years ago. She takes L-thyroxine and the dose of the hormone has been stable for the last several years. Her blood pressure is 120/70 mm Hg and her heart rate is 75/min. Serum TSH level is normal. You consider estrogen replacement therapy for this patient. Which of the following is most likely concerning estrogen replacement therapy in this patient?

1. The level of total thyroid hormones would decrease
2. The metabolism of thyroid hormones would decrease
3. The requirement for L-thyroxine would increase
4. The volume of distribution of thyroxine would decrease
5. The level of TSH would decrease

INCORRECT

The correct answer is 3.

Estrogen replacement therapy affects the metabolism of thyroid hormones. The requirement for L-thyroxine increases, although the exact mechanism that leads to this effect is not completely understood. The most probable cause is increased metabolism of thyroid hormones due to induction of P450 (CYP3A4) in the liver **(Choice 2)**. Several other medications (e.g., rifampin, carbamazepine, and phenytoin), act in the same way. Other mechanisms that can explain an increase in the requirement for L-thyroxine in patients receiving estrogen replacement therapy, include an increased level of thyroid-binding globulin (TBG) and an increased volume of the distribution of thyroid hormones **(Choice 4)**.

(Choice 1) Due to the increase in the TBG, the level of total thyroid hormones would not decrease substantially, although the free hormone level would decrease.

(Choice 5) Serum TSH level represents a sensitive marker of hypothyroid state and would increase if the dose of L-thyroxine is not adjusted accordingly.

113. Question

1 points

Category: Obstetrics & Gynaecology

A 23-year-old woman, gravida 1, para 0, at 25 weeks, gestation comes to the physician because of right upper quadrant pain, nausea and vomiting, and malaise for the past 2 days. Her temperature is 37.0 C (98.6 F), blood pressure is 104/72 mm Hg, pulse is 92/min, and respirations are 16/min. Physical examination reveals right upper quadrant tenderness to palpation. The cervix is long, closed, and posterior. There is generalized edema. Laboratory values are as follows:

Leukocyte count: 10,500/mm^3
Platelet count: 62,000/mm^3
Hematocrit: 26%
Sodium: 140 mEq/L
Chloride: 100 mEq/L
Potassium: 4.5 mEq/L
Bicarbonate: 26 mEq/L

A peripheral blood smear reveals hemolysis. Which of the following laboratory findings would be most likely in this patient?

1. Decreased fibrin split products
2. Decreased lactate dehydrogenase
3. Elevated AST
4. Elevated fibrinogen
5. Elevated glucose

INCORRECT

The correct answer is 3.

This patient has the findings consistent with HELLP syndrome. HELLP stands for hemolysis, elevated liver enzymes, and low platelets, and is related to preeclampsia. A patient with HELLP typically presents with complaints of abdominal pain and nausea and vomiting, as well as a history of malaise or flu-like symptoms. The patients are usually afebrile and often have normal vital signs. Although HELLP is related to preeclampsia, hypertension and proteinuria may be absent or minimal. Examination usually reveals right upper quadrant or epigastric tenderness. Laboratory values show evidence of hemolysis (e.g., abnormal peripheral blood smear, elevated lactate dehydrogenase, and increased bilirubin), elevated liver enzymes (e.g., elevated AST and ALT), and low platelets (<100,000/mm^3). The treatment is essentially the same as for severe preeclampsia.

(Choice 1) would not be consistent with HELLP syndrome. Up to 40% of patients with HELLP syndrome will develop disseminated intravascular coagulation (DIC). In DIC, fibrin split products are elevated.

(Choice 2) would also not be consistent with HELLP syndrome. As noted above, lactate dehydrogenase rises as hemolysis takes place and the liver is damaged.

(Choice 4) would also not usually be seen in HELLP syndrome. In the up to 40% of patients with HELLP who develop DIC, the fibrinogen level would be decreased.

(Choice 5) would not usually be seen in HELLP syndrome.

114. Question **1 points**

Category: Obstetrics & Gynaecology

A 43-year-old woman, gravida 2, para 1, at 34 weeks' gestation comes to the physician because of shortness of breath, which began yesterday while she was lying down. Today, she notices pain when she takes a deep breath. Her temperature is 37.0 C (98.6 F), blood pressure is 110/70 mm Hg, pulse is 90/min, and respirations are 25/min. Oxygen saturation is 97% on room air. Examination is unremarkable. ECG shows sinus tachycardia at 104/min. A chest x-ray film is negative. Which of the following is the most appropriate initial step in management?

1. Antibiotic therapy
2. Coumadin therapy
3. Heparin therapy
4. Pulmonary ultrasonography
5. Ventilation-perfusion scan

INCORRECT

The correct answer is 5.

This patient has signs and symptoms that are suggestive of pulmonary embolism (PE). The most common presenting symptom for PE is shortness of breath, followed by pleuritic chest pain, apprehension, and cough. This patient has shortness of breath and pleuritic chest pain. On physical examination, tachypnea and tachycardia are the most common findings. This patient has tachycardia on the ECG, but not on manual pulse check, and has no tachypnea. However, given her complaints, her tachycardia, the increased likelihood of PE in pregnancy, and the catastrophic outcome that can result from an undiagnosed PE, doing a ventilation-perfusion (V/Q) scan makes sense in this patient. Many patients are reluctant to undergo a V/Q scan during pregnancy because they are concerned about radiation exposure of the fetus. These patients should be reassured that a V/Q scan leads to approximately 50 mrad of radiation exposure to the fetus. Exposure to less than 5 rad is not associated with spontaneous abortion or fetal anomalies.

(Choice 1) is not indicated in this patient. Although she does have dyspnea and tachycardia, she has no fever. PE must be ruled out prior to presumption of infection and administration of antibiotics.

(Choice 2) is contraindicated during pregnancy. In the first trimester, Coumadin can lead to chondrodysplasia punctata, which includes nasal hypoplasia, bony abnormalities, and mental retardation. In the second and third trimesters, it can also lead to fetal structural abnormalities and clotting difficulties.

(Choice 3) can be used during pregnancy. In this case, however, it is important to first diagnose PE prior to instituting heparin therapy.

(Choice 4) is not used to evaluate for PE.

115. Question **1 points**

Category: Obstetrics & Gynaecology

A schoolteacher calls her physician to request information about a recent outbreak of the varicella zoster virus, chickenpox, at her school. She teaches the third grade, and several of her students have been affected in the past week. She has no symptoms but cannot remember having varicella as a child. She is most concerned because she is 16 weeks pregnant with her first child. She is advised to come to the office in the morning for some laboratory tests. These are available within a few hours and show that she has tested positive for IgG to the Varicella virus and negative for IgM. Which of the following is the most appropriate management?

1. She can go back to school without worrying
2. She should remain out of school until the outbreak is over to prevent infection
3. She should be retested because she is still in the incubation stage of the illness
4. She should have an abortion because her fetus is affected and, at this gestation, the effects are severe
5. She should have an ultrasound to see if her fetus is affected by the infection

INCORRECT

The correct answer is 1.

This patient, although she cannot remember having varicella, has evidence of prior infection and natural immunity. Most women who have no known history of varicella infection will have detectable antibodies. This patient's immunity will protect her fetus from infection, and no further treatment is needed.

(Choice 2) Avoidance of possible infection is a strategy for women without natural immunity. However, this patient has been shown to have immunity. In addition, this patient has a documented exposure. If she were without immunity, she would need to be treated with varicella zoster immunoglobulin in an effort to prevent infection or severe manifestations of infection.

(Choice 3) The incubation of varicella ranges from 10 to 20 days, with a mean of 14 days. This patient's exposure does fall in the incubation stage, but she has documented immunity. Further immunologic testing is not indicated.

(Choices 4 & 5) Fetal infection is usually very severe and may lead to fetal death. Elective termination should be offered to those who have evidence of fetal infection. Fortunately, fetal infection is very rare, occurring in less than 5% of infected mothers. Fetal infection is likely to have the worst outcome in those affected earlier than 20 weeks' gestation. Ultrasound is used to look for signs of fetal infection, such as hydrops, microcephaly, limb anomalies,

cardiac malformations, and intrauterine growth restriction. However, this mother has signs of immunity as discussed previously, and there is no risk of fetal infection. Termination of pregnancy or an ultrasound is not needed.

116. Question **1 points**

Category: Obstetrics & Gynaecology

A 16-year-old female is brought to your office by her mother who is concerned that her daughter has not had menstrual bleedings yet. Her past medical history is significant for an episode of severe bilateral pneumonia that required hospitalization when she was seven years old. Physical examination reveals Tanner stage 3 breast development, but very little pubic and axillary hair. A left-sided inguinal mass is palpated. A blind vaginal pouch is noted on pelvic exam. A karyotype analysis showed 46 Y.Y. Which of the following is the most appropriate next step in the management of this patient?

1. Start progesterone supplementation
2. Start low-dose corticosteroid therapy
3. Perform gonadectomy
4. Reassurance and repeat follow-up
5. Use ketoconazole

INCORRECT

The correct answer is 3.

The combination of primary amenorrhea, bilateral inguinal masses, and breast development without pubic or axillary hair is strongly suggestive of androgen insensitivity syndrome. This condition is related to a mutation of the androgen receptor (AR) gene making peripheral tissues unresponsive to androgens that are typically available in normal concentrations in these patients. Although the genotype is 46, Y.Y, female phenotype develops. Breast development is present because testosterone is converted to estrogen, but there is little or no pubic or axillary hair. No mullerian structure is present (uterus, fallopian tube) and the vagina ends with a blind pouch. Testes can be documented with abdominal ultrasonogram in the inguinal canal or in the labia. Because of increased (5%) risk for testicular carcinoma, which typically develops in the second or third decade, a gonadectomy is indicated in these patients. Estrogen therapy, not progesterone therapy, can be used at the time of expected puberty if a gonadectomy is performed prepubertal.

117. Question **1 points**

Category: Obstetrics & Gynaecology

After reading an article titled “The Risk of Cancer in Patients with Diethylstilbestrol (DES) Exposed Mothers”, a 23-year old female comes to your office with her mother for assessment of possible risks. Her mother had been given DES while pregnant. Which of the following cancers is this patient most at risk of developing?

1. ○ Vaginal squamous cell carcinoma
2. ○ Cervical squamous cell carcinoma
3. ○ Adenocarcinoma of the endometrium
4. ○ Adenocarcinoma of ovary
5. ○ Adenocarcinoma of vagina ☐

INCORRECT ☐

The correct answer is 5.

Diethylstilbestrol (DES) is a synthetic preparation possessing estrogen properties, which was widely used between 1947 and 1971 for treatment of threatened abortion. Female offspring of women who used DES during their pregnancy are at increased risk of developing clear cell adenocarcinoma of the vagina and cervix. These women also exhibit cervical abnormalities (hypoplasia), uterine malformations (T-shaped I small uterine cavity), vaginal adenosis and vaginal septae. Many have difficulty conceiving and maintaining pregnancy. Males exposed in utero are at risk of cryptorchidism, microphallus, hypospadias and testicular hypoplasia.

(Choices 1 & 2) The most important risk factor for squamous cell carcinoma of the cervix and the vagina is infection with the human papilloma virus (HPV).

(Choice 3) Risk factors for endometrial adenocarcinoma include obesity, nulliparity, late menopause, hypertension, diabetes mellitus, chronic unopposed estrogen stimulation and chronic tamoxifen use.

(Choice 4) Ovarian cancers of any type are not related to DES exposure. Risk factors for ovarian cancer include family history, nulliparity and lack of prior oral contraceptive use.

118. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman, gravid a 3, para 2, at 35 weeks gestation is brought to the emergency department because of vaginal bleeding. She has had no uterine contractions. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 12th week showed an

intrauterine gestation consistent with dates. Four years ago, she had a low transverse cesarean section in her second pregnancy. Physical examination shows bright red vaginal bleeding. Her temperature is 37.0 °C (98.7 °F), blood pressure is 100/70 mm Hg, pulse is 90/min and respirations are 16/min. Feta l heart monitoring is reassuring. Which of the following is the most likely diagnosis?

1. Abruptio placenta
2. Placenta previa
3. Vasa previa
4. Uterine rupture
5. Normal labor

INCORRECT

The correct answer is 2.

Placenta previa refers to insertion of the placenta in a way that obstructs the internal cervical os partially or completely. This abnormal insertion may cause bleeding as the inferior segment of the uterus develops and stretches the placenta. Placenta previa is responsible for 20 % of all cases of antepartum hemorrhage and is typically painless. Risk factors include multiparity, advanced maternal age, prior caesarian section, smoking, multiple gestation (as multiple placentas cover a larger surface and have a higher risk of low insertion) and prior placenta previa.

(Choice 1) Abruptio placenta is a premature placental separation initiated by hemorrhage in the decidua basalis. It is classically associated with underlying maternal hypertension. The clinical presentation is variable. Patients may be asymptomatic with intrauterine fetal death or may present with dark red vaginal bleeding associated with painful uterine contractions.

(Choice 3) Vasa previa is a rare condition in which the fetal blood vessels cross the fetal membranes in the lower segment of the uterus between the fetus and the internal cervical os. It also presents as painless antepartum hemorrhage but is associated with rapid deterioration of the fetal heart tracing as the hemorrhage is of fetal origin.

(Choice 4) Uterine rupture classically presents with a sudden onset of intense abdominal pain and vaginal bleeding associated with hyperventilation, agitation and tachycardia.

(Choice 5) Normal labor presents with regular contractions associated with cervical dilation, release of the mucous plug and bloody show due to tearing of small cervical veins. Frank hemorrhage is not associated with normal labor.

119. Question **1 points**

Category: Obstetrics & Gynaecology

A 17-year-old woman presents to the emergency department with sudden onset of abdominal pain. She was playing in the school band when it began. She describes the pain as starting 30 minutes ago in the left lower quadrant without any radiation. The pain is 7 on a scale of 1 to 10 and not associated with nausea, vomiting, or diarrhea. Onset of menarche was age 13. Although initially her menses were irregular, she has had regular menstrual periods for the past 6 months. She has no fever, and her vital signs are stable. She is sexually active and is on combination oral contraceptive pills. She denies taking other medications. Physical examination reveals a flat abdomen with normal peristalsis. Pelvic examination reveals a normal vagina with a normal-appearing cervix. There is no mucopurulent cervical discharge. Bimanual examination is remarkable with a tender 5-cm mass in the left adnexa. A pregnancy test result is negative. A pelvic sonogram exhibits a normal intrauterine pregnancy and a 5 X 6 cm complex mass of the left ovary, with focal areas of calcification. Which of the following is the most likely diagnosis?

1. Follicular cyst
2. Mucinous cystadenoma
3. Cystic teratoma
4. Brenner tumor
5. Serous cystadenoma

INCORRECT

The correct answer is 3.

The human ovary can develop a wide variety of tumors. These tumors can be functional, inflammatory, metaplastic, or neoplastic, but most are benign. Benign cystic teratoma, also known as a dermoid cyst, is the most common benign complex ovarian tumor in young women. This can coexist with a normal pregnancy. The scenario describes a probable torsion of this enlarged ovary. Urgent surgical exploration is essential.

(Choice 1) is probably the most common reason for ovarian enlargement. This is the dominant follicle found in all women prior to ovulation. However, these are always simple fluid-filled cysts and never have calcifications.

(Choice 2) is a benign epithelial ovarian tumor and is frequently multiloculated. They can attain a huge size, often filling the entire pelvis. If they rupture, they can cause pseudomyxoma peritonei. However, calcifications are not usually seen.

(Choice 4) is also a benign epithelial ovarian tumor but it is solid, occurring most often in women over 50 years of age.

(Choice 5), another epithelial ovarian tumor, tends to be unilocular but does not show calcifications.

120. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman presents for her first prenatal visit at 12 weeks gestation. She was diagnosed with HIV two years ago, and her most recent CD4 count three months ago was 600cells/mm3. She does not use tobacco, alcohol, or illicit drugs. Physical examination is within normal limits. Which of the following is the single most important intervention for reducing maternal-fetal transmission of HIV infection?

1. Elective cesarean section at 38 weeks gestation
2. Use of forceps to expedite delivery
3. Administering HIV immunoglobulin and vaccine to the neonate
4. Zidovudine treatment of the mother during pregnancy and of the neonate after birth

INCORRECT

The correct answer is 4.

The most important intervention for preventing spread of HIV from mother to child is administration of zidovudine to the mother throughout pregnancy and labor, as well as to the neonate for the first 6 weeks of life. This intervention has been shown to decrease the rate of transmission by 70%. The mother should also be counseled to not breastfeed, as this increases the risk of transmission.

(Choice 1) Elective cesarean section reduces the risk of perinatal transmission of HIV by 50% (less efficacious than zidovudine). Combining zidovudine treatment with elective cesarean section reduces the
risk of transmission more than either intervention alone.

(Choice 2) Forceps are to be avoided in this setting, because abrasions or lacerations of the infant's skin would increase the risk of HIV transmission.

(Choice 3) Administration of Hepatitis B immunoglobulin and vaccine is beneficial for infants born to mothers with Hepatitis B. Unfortunately, there is no immunoglobulin or vaccine available for HIV.

121. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old, HIV-positive woman comes to the physician complaining of "pimples" on the vulva and perineal skin. The lesions do not bother her except for occasional mild itching. Examination shows multiple small (2-5 mm), dome-shaped, flesh-colored papules with a smooth surface. Several of the lesions have a central dimple. Which of the following is the most likely causal organism?

1. Epidermophyton floccosum
2. Human papillomavirus
3. Molluscum contagiosum virus
4. Phthirus pubis
5. Sarcoptes scabiei

INCORRECT

The correct answer is 3.

Molluscum contagiosum is a poxvirus. Infection can occur with or without sexual contact. It is a rare infection that tends to occur in patients who are immunosuppressed, such as those with HN or on immunosuppressive agents. It is largely asymptomatic, although it can cause mild pruritus. The lesions have a typical appearance in that they are small, dome-shaped, flesh-colored papules with a smooth surface. Many of the lesions will be umbilicated, that is, they will have a central dimple. Diagnosis is made by biopsying the lesion or expressing the contents of the lesion onto a slide for histologic evaluation. Treatment is with destruction of the lesions with laser, liquid nitrogen, or trichloroacetic acid.

(Choice 1) causes tinea cruris (jock itch). This lesion appears pink to red and has well-defined scaly borders.

(Choice 2) causes condyloma acuminata. These lesions are often grouped together on the vulva and perineum and may involve the vagina and cervix. They have the appearance of warts that are small or large and cauliflower-like.

(Choice 4) is the pubic louse that causes severe pruritus and erythema. This patient has only mild pruritus, no erythema, and lesions classic for molluscum contagiosum.

(Choice 5) is the female itch mite that causes scabies. Scabies is characterized by severe pruritus (often at night) and papular lesions on the hands, wrists, other joints, and pubis.

122. Question **1 points**

Category: Obstetrics & Gynaecology

A 37-year-old primigravid woman comes to the physician for her first prenatal visit. She is at 8 weeks' gestation based on a firm last menstrual period. She has migraine headaches, for which she takes acetaminophen and occasional butalbital. She has never had surgery. She has no allergies to medications. Which of the following would be proper counseling to this patient?

1. Acetaminophen cannot be used in pregnancy

2. Ergot-derived medications should be used in pregnancy
3. Migraine symptoms usually improve with pregnancy
4. Narcotics cannot be used in pregnancy

INCORRECT

The correct answer is 3.

Migraine headache describes a severe headache that is often unilateral and can cause nausea, vomiting, and visual scotomata, among other neurologic findings. Migraine headache is a common problem in women of childbearing age. Therefore, issues surrounding migraine headache and its management come up often during the care of pregnant women. Approximately two thirds of migraine sufferers will report improvement of their symptoms during pregnancy.

(Choice 1) To state that acetaminophen cannot be used in pregnancy is incorrect. Acetaminophen is widely used in pregnancy and believed to be safe.

(Choice 2) Ergot-derived medications cause vasoconstriction, and there is concern that these medications are harmful to the fetus.

(Choice 4) As with most medications during pregnancy, it is better to limit the use of narcotics or not use them at all, if possible. However, in cases where pain relief is needed, such as for migraine headache or nephrolithiasis, narcotics can and should be used.

123. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman presents to office with a 3-week history of scant vaginal discharge. She has no other complaints. She is sexually active and uses oral contraceptives. She has regular 26-day menstrual cycles and her last menstrual period was ten days ago. She does not smoke or consume alcohol. Her temperature is 36.7 °C (98 °F), blood pressure is 120/80 mmHg, pulse is 80/min, and respirations are 14/min. On examination, the abdomen is non-tender. Yellow mucopurulent discharge is seen at the cervical os. Which of the following organisms is the most probable cause of this patient's problem?

1. Chlamydia trachomatis
2. Neisseria gonorrhoeae
3. Herpes simplex
4. Trichomonas vaginalis
5. Candida albicans

INCORRECT

The correct answer is 1.

This patient presents with signs and symptoms suggestive of mucopurulent cervicitis. Mucopurulent cervicitis is a common gynecologic problem, but it is asymptomatic in more than 50% of women with this disease. The prevalence of this condition in young women is estimated to be as high as 10%. The most common cause of mucopurulent cervicitis is Chlamydia trachomatis. Besides that, cervical ectopy created by oral contraceptives may preferentially predispose to colonization with C. trachomatis.

(Choice 2) Although N. gonorrhoeae is a less common cause, gonococcal infection should be carefully excluded by Gram staining and culture.

(Choices 4 & 5) T. Vaginalis and C. albicans are frequent causes of ecto cervicitis that is typically associated with vulvovaginitis.

(Choice 3) Herpes simplex can cause cervical inflammation and ulceration, but does not cause mucopurulent discharge.

124. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old woman, gravida 4, para 0, at 6 weeks' gestation comes the physician for her first prenatal visit. Her past obstetric history is significant for three second-trimester losses. She states that each time she presented to the hospital and was found to have a widely dilated cervix. She does not recall having painful contractions prior to the diagnosis of dilation in any of the previous pregnancies. She has no medical problems and has never had surgery. Physical examination is unremarkable, including a pelvic examination that shows her cervix to be long and closed. After a lengthy discussion with the patient, she chooses to have a cerclage placed during this pregnancy. Which of the followings the most appropriate time to place the cerclage?

1. Immediately
2. 10 to 14 weeks
3. 20 to 24 weeks
4. 24 to 28 weeks
5. 32 to 36 weeks

INCORRECT

The correct answer is 2.
This patient has a history that is most consistent with cervical incompetence, which is defined as painless cervical dilation in the second trimester. This definition is meant to distinguish cervical incompetence from preterm labor, in which there is progressive cervical dilation with painful contractions. In actual practice, many women present with a history of cervical dilation and some "cramping:' In these cases, it can be difficult to determine whether the process was cervical incompetence or preterm labor. When a patient has a history of cervical incompetence, a cerclage may be placed. This cerclage is a suture that is placed at the level of the internal os (a Shirodkar cerclage) or a purse string suture that is placed as high as possible (a McDonald cerclage). The idea is that the suture will support the cervix and maintain its "competence." Timing of cerclage placement is important. There are two kinds of cerclage to consider when discussing timing. One is a prophylactic cerclage that is placed based on the woman's history. The second is an emergency cerclage that is placed based on findings of cervical dilation with bulging membranes. This patient would qualify for a prophylactic cerclage, as she is at 6 weeks' gestation. To place a cerclage immediately **(Choice 1)** runs the risk of performing a procedure on a patient who may have a spontaneous abortion. It is better to wait until the pregnancy is well established (e.g., late first or early second trimester, or 10-14 weeks) so that there is less likelihood of performing a cerclage on a woman who was going to miscarry anyway.
(Choice 3) would not be correct because this may be too late. The process of incompetence may be under way at this point in the pregnancy.
(Choices 4 & 5) To wait until 24-28 weeks or 32-36 weeks would also be incorrect. Again, the process of incompetence may have already started. Also, performing a cerclage this late in the pregnancy runs the risk of iatrogenic prematurity by stimulating preterm labor or rupturing the membranes. A woman, regardless of her history, who makes it to 24 or 32 weeks has a good chance of not delivering prematurely. Cerclage placement carries the risks of ruptured membranes, infection, or preterm labor.

125. Question **1 points**

Category: Obstetrics & Gynaecology

A 33-year-old woman, gravida 3, para 2, is at 25 weeks' gestation. Her gestational age was confirmed by a 10-week sonogram performed because of early pregnancy spotting. A 20-week sonogram revealed a normal-appearing single male fetus, appropriate size for dates, without any gross congenital anomalies. On examination in the office today, her fundal height measures 31 cm. A repeat obstetrical ultrasound examination today reveals a single fetus in transverse lie with no part of the fetus touching the uterine wall or placenta. It was determined that there was a 4-quadrant amniotic fluid index (AFI) of 30 cm with the deepest single amniotic fluid pocket measuring 9 cm. Which one of the following maternal conditions does this patient most likely have?

1. ○ Asthma

2. Diabetes mellitus
3. Hypothyroidism
4. Seizure disorder
5. Sickle cell anemia

INCORRECT

The correct answer is 2.

The case scenario describes polyhydramnios. The amount of amniotic fluid can be quantified using the four quadrant amniotic fluid index (AFI), which is the sum of the measurements of the deepest amniotic fluid pockets in the four abdominal quadrants, measured by sonography. Polyhydramnios is present when the AFI exceeds 25 cm or the deepest single amniotic fluid pocket exceeds 8 cm. Excessive amniotic fluid is a result of imbalance of secretion and absorption. The only option listed that is associated with polyhydramnios is diabetes mellitus, in which polyhydramnios appears to be related to a lack of glucose control. **(Choices 1,3,4 & 5)** Asthma, hyperthyroidism, seizure disorder, and sickle cell anemia are not associated with polyhydramnios.

126. Question **1 points**

Category: Obstetrics & Gynaecology

An 18-year-old woman has a 2-cm, firm, and rubbery mass in the upper outer quadrant of her left breast. It has been present for at least 3 or 4 months. The mass is easily movable, not tender, and otherwise asymptomatic. Which of the following is the most appropriate initial step in management?

1. Clinical observation
2. Sono gram
3. Mammogram
4. Incisional biopsy
5. Excisional biopsy

INCORRECT

The correct answer is 2.

The clinical diagnosis is fibroadenoma, which is seen in this age group with exactly the findings described. Fibroadenomas can be diagnosed with fine needle aspiration, which was

not offered as a choice, or with ultrasonography. On confirmation of the diagnosis, the woman has the option for excision or continued clinical observation. Most women elect to have the mass removed, but it should be their choice.
(Choice 1) is fine, once we know the lesion is a fibroadenoma. Otherwise, when the rare case of cancer comes along in this age group (yes, it can happen), diagnostic and therapeutic delays would be inexcusable.
(Choice 3) If a mammogram were ordered, the physicians in the radiology department would have a good laugh. They do not perform mammograms in women younger than 20. The breast tissue is too dense in this population, and the study is not useful. Ultrasonography is a better option.
(Choice 4) would be too aggressive to make the diagnosis and not complete enough to actually serve as treatment. If one elects a surgical approach for a 2-cm mass, one should take it all out.
(Choice 5) would be better than incisional biopsy, but it would be an even more aggressive way to confirm the clinical diagnosis and would not allow the patient the choice of therapy.

127. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old obese female returns to the physician's office for a follow-up appointment at 16 weeks gestation. She was diagnosed with gestational diabetes at 12 weeks gestation and since then has been following dietary recommendations. She eats a balanced diabetic diet three times a day and avoids snacks. Her fasting blood sugars for the past two weeks have been in between 120 to 150 mg/dl. Her temperature is 37.0 °C (98.7 °F), blood pressure is 130/88 mmHg, pulse is 76/min and respirations are 14/min. Physical examination is unremarkable. She is managed with appropriate therapy. She subsequently delivers a baby at 37 weeks gestation without maternal complications. The baby is at risk of having been born with or developing which of the following?

1. Hyperglycemia
2. Hypercalcemia
3. Hyperviscosity
4. Intussusception
5. Mental retardation

INCORRECT
The correct answer is 3.
Gestational diabetes carries numerous risks for the fetus including macrosomia, hypocalcemia, and hypoglycemia, hyperviscosity due to polycythemia, respiratory difficulties,

and cardiomyopathy and congestive heart failure. Polycythemia in an infant of a diabetic mother is the result of fetal hypoxia that occurs in the face of the increased basal metabolic rate induced by hyperglycemia. Increased erythropoietin production by the fetus increases the red blood cell mass and oxygen carrying capacity of the blood.
(Choice 1) Hypoglycemia, NOT hyperglycemia typically occurs in infants of diabetic mothers due to the high baseline insulin production in these infants. Once delivered, they are no longer exposed to the high glucose load from the mother and their hyperinsulinemia results in hypoglycemia.
(Choice 2) Hypocalcemia is typical in infants of diabetic mothers due to parathyroid hormone suppression.
(Choice 4) Intussusception occurs in association with a variety of factors including Meckel diverticulae and Henoch-Schonlein purpura.
(Choice 5) Mental retardation has numerous causes. Gestational diabetes, however, is not commonly associated with fetal mental retardation.

128. Question **1 points**

Category: Obstetrics & Gynaecology

A 21-year-old nulligravid woman comes to her physician to discuss birth control options. She became sexually active for the first time 2 weeks ago. She is currently using condoms for contraception. Her past medical history is significant for asthma, which has been inactive for 2 years. She takes no medications and has no allergies to medications. She has no family history of cancer. Her examination is within normal limits. After a discussion with the physician, she chooses to take the oral contraceptive pill (OCP). She stays on the pill for the next 6 years. She now has most significantly decreased her risk of developing which of the following malignancies?

1. Breast cancer
2. Cervical cancer
3. Liver cancer
4. Lung cancer
5. Ovarian cancer

INCORRECT

The correct answer is 5.

Numerous studies demonstrate that use of the oral contraceptive pill (OCP) significantly decreases a woman's likelihood of developing ovarian cancer. Some studies show a protective effect with as little as 6 months of use, and others show an even greater effect with longer use. One theory to explain the decreased ovarian cancer risk is that the OCP

provides hormones that feedback inhibits the pituitary which then decreases the amount of gonadotropins that are produced and helps to suppress monthly ovarian germinal capsule disruptions caused by ovulation.
(Choice 1) The relationship between breast cancer and the OCP remains unclear at this time. There is some evidence that current users and those who have recently stopped may be at some increased risk of breast cancer. However, there is also evidence that when breast cancer is diagnosed in an OCP user, it tends to be more localized than in a nonuser.
(Choice 2) The relationship between cervical cancer and the OCP also remains unclear at this time. Overall the results have been inconclusive. All sexually active-es patients should have regular screening for cervical dysplasia with a pap smear.
(Choice 3) The OCP does not protect against liver cancer; it is believed to increase the risk of certain benign liver tumors.
(Choice 4) There is no known association between lung cancer and the OCP.

129. Question **1 points**

Category: Obstetrics & Gynaecology

A 39-year-oldnulligravidwoman comes to the physician because of a persistent vaginal itch, vaginal discharge, and dysuria. She has had these same symptoms severalties over the past 2 years and each time has been diagnosed with Candida vulvovaginitis. On physical examination, she has a thick, white vaginal discharge and significant vulvar and vaginal erythema. A potassium hydroxide (KOH) smear shows pseudohyphae; the normal saline smear is negative. Which of the following is the most appropriate next step in management?

1. Refer to psychiatry
2. Screen for cocaine abuse
3. Screen for diabetes
4. Screen for thalassemia
5. Treat with metronidazole

INCORRECT

The correct answer is 3.

There is a well-established association between recurrent Candida infections and diabetes mellitus. Diabetes mellitus is known to alter the metabolic and nutritional milieu of the vulva and vagina, which makes infections with Candida more likely. A patient who has recurrent Candida infections should therefore be screened for diabetes mellitus. Screening for HN would also be appropriate, as immunosuppression can certainly lead to recurrent infections.

(Choice 1) would not be proper management. This patient comes to the physician several times a year with vulvar complaints because of her recurrent infections with Candida. On this visit she also has a Candida infection that is diagnosed on the basis of the symptoms (vulvovaginal itch and discharge and dysuria), her examination (erythema and a thick, white discharge), and KOH smear findings (pseudohyphae). She needs treatment and screening for diabetes and HN and not referral to psychiatry for this issue.
(Choices 2 & 4) To screen for cocaine abuse or thalassemia would not be proper management. There is no proven association between either of these conditions and recurrent Candida infections.
(Choice 5) would not be proper management. Metronidazole is used to treat infection with Trichomonas vagina/is or bacterial vaginosis. This patient has no evidence of either of these infections.

130. Question **1 points**

Category: Obstetrics & Gynaecology

A 17-year-old woman, gravida 1, para 0, at 38 weeks, gestation comes to the labor and delivery ward because of contractions. Her dating was determined by a 7- week ultrasound. Her prenatal course was complicated by gestational diabetes. Her past surgical history is significant for shoulder surgery. She takes insulin and prenatal vitamins. She has no known drug allergies. She smokes 3 to 4 cigarettes per day. She is initially found to be 4 cm dilated and is contracting every 2 to 3 minutes. She is admitted to the labor and delivery ward and, over the next 4 hours, progresses to full dilation. After pushing for 2 hours, she delivers the fetal head but has great difficulty delivering the fetal shoulders. Eventually, the fetus is delivered by the posterior arm. In the process of delivery the newborn's humerus is fractured. Which of the following factors contributed the most to the difficult delivery of the fetus?

1. Cigarette smoking
2. Gestational age
3. Gestational diabetes
4. Maternal age
5. Maternal shoulder surgery

INCORRECT
The correct answer is 3.
Gestational diabetes is defined as glucose intolerance that develops or is first recognized during pregnancy. To diagnose gestational diabetes, a 50-g oral glucose tolerance test (OGTT) is given between 24 and 28 weeks. Any woman with a plasma glucose value above

140 mg/dL on the 50-g OGTT is then sent for a 100-g, 3-hour OGTT, in which a 100-g glucose load is given and plasma glucose levels are checked at 1, 2, and 3 hours. Any woman with two or more abnormal values is considered to have gestational diabetes. A class Al gestational diabetic does not have fasting hyperglycemia (glucose > 105 mg/dl.) and can usually be treated with diet alone. A classA2 gestational diabetic has fasting hyperglycemia and needs insulin treatment. Gestational diabetics are at increased risk for fetal macrosomia. Fetal macrosomia is a risk factor for shoulder dystocia, a condition in which the fetus' anterior shoulder becomes impacted against the mother's pubic symphysis. This fetus had a shoulder dystocia that was relieved only with delivery of the posterior arm. In the process, the humerus was fractured. The shoulder dystocia was likely the result of the fetal macrosomia, which was most likely caused by the mother's gestational diabetes.
(Choice 1) has not been shown to be related to shoulder dystocia.
(Choice 2) is related to shoulder dystocia when the patient is post-dates (>40 weeks). This patient, however, is at 38 weeks' gestation.
(Choice 4) There is some evidence that advanced maternal age may be related to shoulder dystocia. This patient is 17; therefore, advanced maternal age is not a factor.
(Choice 5) Maternal shoulder surgery is not related to the occurrence of shoulder dystocia.

131. Question **1 points**

Category: Obstetrics & Gynaecology

A 38-year-old woman, gravida 2, para 1, at 10 weeks gestation comes to the physician's office for prenatal counseling of genetic disorders. She has a healthy 3-year-old child. Given her age, she is worried about the risk of Down syndrome, and if her baby test is positive for Down syndrome she would like to terminate the pregnancy. Ultrasonogram shows increased fetal nuchal fold lucency. Which of the following is the most appropriate next step in management?

1. ○ Chorionic villus sampling
2. ○ Second trimester amniocentesis
3. ○ Early amniocentesis
4. ○ Cordocentesis
5. ○ Maternal serum α fetoprotein levels (MSAFP)

INCORRECT

The correct answer is 1.

Chorionic villus sampling (CVS) is a technique that involves aspiration of a small quantity of chorionic villi from the placenta. It can be done between 10 and 12 weeks of gestation thus offering the advantage of an early diagnosis. These fetus-derived cells are then karyotyped

and subjected to fluorescence in situ hybridization (FISH) studies to detect aneuploidies. Enzymatic deficiencies and specific known defects can also be screened for using the sample obtained with CVS. CVS sampling is indicated in women over 35 years following an abnormal ultrasound. This is because serum screening does not provide a confirmatory diagnosis and is unable to indicate a risk that is any greater than the risk of trisomy based solely on the patient's advanced age. The risk of complications is slightly higher than in amniocentesis. The patient described wants to terminate her pregnancy in the event of an anomaly, so diagnosis of a defect as early as possible with CVS is the most appropriate next step in management.

(Choice 2) Amniocentesis is done between the 16th and 18th week of gestation and therefore is not suitable for this patient.

(Choice 3) Unlike second trimester amniocentesis, early amniocentesis can be performed before 15 weeks gestation, and therefore has the same advantage of early detection as CVS. It is, however, reserved for patients in whom CVS cannot be performed.

(Choice 4) Cordocentesis or Percutaneous Umbilical Blood Sampling (PUBS) is used for rapid karyotype analysis or when fetal blood dyscrasias, such as fetal anemia and Rhesus isoimmunization, are
suspected. It is also indicated when mosaicism is suspected by CVS or amniocentesis to further assess the fetal karyotype.

(Choice 5) MSAFP is routinely performed during the second trimester. It is used to screen for neural tube and abdominal wall defects as well as chromosomal anomalies when serum levels of estriol and β-hCG are also assessed. In this patient, CVS is more appropriate to provide a definitive diagnosis.

132. Question

1 points

Category: Obstetrics & Gynaecology

A 54-year-old female is complaining of hot flashes, vaginal dryness and irritability. Her symptoms started about a year ago, and have been gradually getting worse. She has not had a menstrual period for 12 months. She currently smokes 1 pack of cigarettes daily and drinks a glass of wine occasionally. The cardiorespiratory examination is unremarkable. Inspection of her vagina reveals dryness and atrophy. She asks about the risks and benefits of combination hormone replacement therapy (HRT). Which of the following is NOT an appropriate statement to make regarding this treatment modality?

1. There is an increased risk of venous thromboembolism
2. There is no increased risk of endometrial cancer with combination HRT
3. A benefit is protection against osteoporosis
4. There is a reduction in the risk of colon cancer when using combination HRT
5. A benefit of combination HRT is a decreased risk of coronary artery disease

INCORRECT

The correct answer is 5.

This woman is going through menopause as evidenced by her age, amenorrhea for the past year, and symptoms of hot flashes, vaginal dryness, and irritability. Hormone replacement therapy (HRT) can be used to manage her symptoms; however, before beginning therapy, it is important to discuss the associated benefits and risks. For the past few decades, long-term (greater than five years) estrogen and combined estrogen-progestin therapy had been routinely prescribed in postmenopausal patients for the prevention of coronary heart disease; however, data from the Women's Health Initiative (WHI) have changed this practice. Subsequent trials and meta-analyses have supported the data from the WHI trial.

The following are conclusions from the WHI trial:

1. There is no cardiovascular benefit with either unopposed estrogen or combined estrogen-progestin therapy. In fact, the study suggests that there is some increase in risk with combined therapy.
2. There is an increased risk of stroke with long-term use of both unopposed estrogen and combined estrogen-progestin therapy.
3. There is an increased risk of breast cancer with combined estrogen-progestin therapy, but not with unopposed estrogen.

Based on this information, the only recommendations for HRT are for the short-term use of controlling menopausal symptoms. For prevention of osteoporosis, other modalities such as bisphosphonates or raloxifine should be considered.

(Choices 1 & 2) The risks of HRT include an associated increased incidence of venous thromboembolism and endometrial hyperplasia/cancer (only with unopposed estrogen). This risk can be largely reduced by the addition of progestin therapy. Therefore, unless a woman has had a hysterectomy, the recommended regimen includes combination oral estrogen and progestin.

(Choices 3 & 4) The benefits of HRT are that it helps relieve the symptoms of vaginal dryness, hot flashes and some of the mental changes seen in menopause. It also protects against osteoporosis, and to a minor degree against colon cancer.

133. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old nulligravid woman comes to the physician for her annual visit. She has no complaints. She has a history of hepatitis A but denies prior surgeries. She has been taking the oral contraceptive pill for 2 years. She has no known drug allergies. She is sexually active and occasionally uses condoms. A Pap smear shows perinuclear cytoplasmic vacuolization and nuclear enlargement, irregularity, and hyperchromasia. The report states that she has a low-grade squamous intraepithelial lesion (LGSIL).Which of the following organisms are most likely responsible for these cellular changes?

1. Donovania granulomatis
2. Haemophilus ducreyi
3. Hepatitis A
4. Hepatitis B
5. Human papillomavirus

INCORRECT

The correct answer is 5.

It is now generally accepted that the human papillomavirus (HPV) is the most likely etiologic agent for cervical dysplasia. Overwhelming epidemiologic evidence supports the association between cervical dysplasia and HPV. Infection with HPV leads to cellular changes: perinuclear cytoplasmic vacuolization and nuclear enlargement, irregularity, and hyperchromasia. Under the Bethesda system of Papanicolaou smear grading, these HPV-associated changes are considered to be a low-grade squamous intraepithelial lesion (LGSIL).

(Choice 1) is the bacterium that causes granuloma inguinale. This condition is characterized by papules and ulcers of the external genitalia. Diagnosis is made by the presence of Donovan bodies (encapsulated bacteria found in mononuclear cells) in tissue samples specially stained. Treatment is with tetracycline.

(Choice 2) is the bacterium that causes chancroid. This condition is characterized by papules and painful ulcers of the external genitalia, as well as by local lymphadenopathy. The diagnosis is made by Gram stain, culture, and biopsy. The treatment is with erythromycin.

(Choices 3 & 4) Hepatitis A and hepatitis B are viruses that infect the liver. They do not cause the cellular changes on Pap smear that are described in this patient and they are not known to cause cervical dysplasia.

134. Question **1 points**

Category: Obstetrics & Gynaecology

A 30-year-old female comes to your office for her first prenatal visit. She has been married for 3-years and has been trying to conceive for the past year. She had been unsuccessful; however, she now has a 2-month history of amenorrhea. She has been experiencing morning sickness and has had abdominal distension and breast fullness over the past two weeks. She states that her home urine pregnancy test is positive. She seems happy and excited about this long awaited pregnancy. She has no previous medical problems. She has been taking prenatal vitamins for the past 3 weeks after she first missed her period. Physical examination shows a tympanic abdomen. Ultrasonogram shows a normal endometrial stripe. Pregnancy testing in the office is negative. Which of the following is the most likely diagnosis?

1. Missed abortion
2. Fetal demise
3. Ectopic pregnancy
4. Molar pregnancy
5. Pseudocyesis

INCORRECT

The correct answer is 5.

This patient most likely has a pseudocyesis. This is an uncommon condition in which a woman presents with many signs and symptoms of pregnancy such as amenorrhea, enlargement of the breasts and
abdomen, morning sickness, weight gain, sensation of fetal movement and reported positive urine pregnancy test per the patient. Ultrasound, however, will reveal a normal endometrial stripe and the pregnancy test in office will be negative. Pseudocyesis is usually seen in women who have a strong desire to become pregnant. It has been suggested that the depression caused by this need is behind the occurrence of some hormonal changes mimicking those of pregnancy. This is a form of conversion disorder, and management requires psychiatric evaluation and treatment.

(Choice 1) In a missed abortion ultrasonogram usually reveal an intrauterine collapsed gestational sac and absent fetal cardiac activity. An in office pregnancy test is positive.

(Choice 2) Fetal demise occurs between 20 weeks gestation and the onset of labor. Ultrasonogram reveals an absence of fetal heart activity and the presence of intrauterine products of conception.

(Choice 3) In ectopic pregnancy ultrasonogram usually reveals an adnexal mass and an empty uterus. A pregnancy test will be positive.

(Choice 4) Patients with molar pregnancy typically have an exaggeration of the nausea and vomiting of early pregnancy, uterine size greater than dates and ultrasound typically reveals the classic snowstorm appearance. A pregnancy test will be positive.

135. Question **1 points**

Category: Obstetrics & Gynaecology

A 41-year-old woman, gravid a 3, para 3, comes to the physician because of a 2-year history of dysmenorrhea and menorrhagia that has been increasing in intensity. She has no dyspareunia or any other symptoms. She has a history of chronic hypertension. She had a cesarean section in her

3rd pregnancy followed by surgical sterilization. Vital signs are normal. Bimanual examination shows a symmetrically enlarged and tender uterus with soft consistency and free adnexae. Which of the following is the most likely diagnosis?

1. Adenomyosis
2. Endometriosis
3. Leiomyomata
4. Endometrial carcinoma
5. Endometritis

INCORRECT

The correct answer is 1.

Adenomyosis is defined as the presence of endometrial glands in the uterine muscle. This invasion can extend through the full thickness of the myometrium and in some instances to the serosa of the uterus. It occurs most frequently in women above 40 and typically presents with severe dysmenorrhea and menorrhagia. The physical exam reveals an enlarged and generally symmetrical uterus. The differential diagnosis includes leiomyoma and endometrial carcinoma. For women above 35, it is mandatory to perform an endometrial curettage to rule out endometrial carcinoma.

(Choice 2) Endometriosis is a benign condition where foci of endometrial glands and stroma are found in locations outside the uterus. The uterus is not diffusely enlarged.

(Choice 3) Leiomyomas or uterine fibroids can be very difficult to distinguish from adenomyosis because both can present with dysmenorrhea, menorrhagia and a large-sized uterus. A uterus affected by fibroids is usually irregularly shaped.

(Choice 4) Endometrial carcinoma typically occurs after menopause. Because this patient is over 35, endometrial curettage is mandatory to rule it out endometrial carcinoma.

(Choice 5) Endometritis manifests with fever, an enlarged and tender uterus and foul smelling vaginal discharge. It usually occurs after a septic abortion or in the postpartum period (puerperal fever).

136. Question **1 points**

Category: Obstetrics & Gynaecology

A 48-year-old woman has been married for 8 years and desperately wants to have a child of her own before it is too late. She consults a new obstetrician for help because she has experienced multiple early second- trimester losses due to painless cervical dilation leading to expulsion of immature stillborn fetuses. She reports that she was exposed in utero to diethylstilbestrol (DES), explaining that when her mother was pregnant with her she experienced early pregnancy bleeding

and, as a consequence, was treated with DES to prevent the pregnancy from being terminated. At this time, this patient is most likely to demonstrate which of the following conditions on physical examination?

1. Cervical dysplasia
2. Breast fibroadenoma
3. Vaginal adenosis
4. Müllerian agenesis
5. Polycystic ovary syndrome

INCORRECT

The correct answer is 3.

Diethylstilbestrol (DES) is a nonsteroidal estrogen that was used between 1940 and 1971 for treatment of threatened spontaneous abortion. Vaginal clear cell adenocarcinoma is the most serious consequence of prenatal DES exposure. However, numerous non-neoplastic uterine and vaginal anomalies also have been reported in women exposed to DES in utero, including cervical insufficiency, as is the case with this patient. Cervical insufficiency is treated with placement of a cervical cerclage at 14-16 weeks' gestation. Columnar epithelium is normally found only around the endocervical canal; in vaginal adenosis, the columnar epithelium extends onto the vaginal fornices. This condition is found in 4% of normal females, but 30% of women exposed to DES in utero have this condition. It is the most common physical finding observed during pelvic examination of DES-exposed women. During colposcopic examination, the immature metaplastic squamous epithelium of the cervix of these women resembles dysplasia, with a mosaic and punctate appearance. However, histologic examination demonstrates this epithelium is benign; it is not a true dysplasia, thus **(Choice 1)** is not correct.

The following conditions are not associated with prenatal DES exposure:

(Choice 2), which is the most common breast tumor in young women.

(Choice 4) is characterized by absence of the oviducts, uterus, cervix, and proximal vagina.

(Choice 5) A condition with bilaterally enlarged, smooth ovaries associated with anovulation, infertility, and hirsutism.

137. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old obese female returns to the physician's office for a follow-up appointment at 16 weeks gestation. She was diagnosed with gestational diabetes at 12 weeks gestation and since then has been following dietary recommendations. She eats a balanced diabetic diet three times a

day and avoids snacks. Her fasting blood sugars for the past two weeks have been in between 120 to 150 mg/dl. Her temperature is 37.0 °C (98.7 °F), blood pressure is 130/88 mmHg, pulse is 76/min and respirations are 14/min. Physical examination is unremarkable. Which of the following is the most appropriate therapy for this patient?

1. Chlorpropamide
2. Tolbutamide
3. Insulin
4. Exenatide
5. Continue dietary therapy

INCORRECT

The correct answer is 3.

The patient described has gestational diabetes that has not responded to a trial of a diabetic diet. Diagnosing and appropriately treating gestational diabetes is important as pregnancies in the setting of uncontrolled disease are at increased risk of miscarriage, abnormally large size, congenital malformations, preterm birth, pyelonephritis, preeclampsia, meconium aspiration and stillbirth. The ideal range of maternal fasting glucose is between 75 and 90 mg/dl. Treatment of gestational diabetes is best accomplished with subcutaneous insulin, which is classified as a category B agent and does not cross the placenta.

(Choices 1 & 2) Chlorpropamide and tolbutamide cross the placenta and can cause fetal hyperinsulinemia, macrosomia and prolonged neonatal hypoglycemia. These agents are classified as pregnancy category C.

(Choice 4) Exenatide is an analog of the hormone incretin that increases insulin production by pancreatic β cells, stimulates growth and replication of β cells and slows gastric emptying. It works synergistically with sulfonylureas, thiazolidinediones, and metformin and is classified as pregnancy category C.

(Choice 5) Continue dietary therapy is insufficient to treat this patient's gestational diabetes as she has thus far been unable to obtain good glycemic control. The risks of continued hyperglycemia demand treatment at this time.

138. Question **1 points**

Category: Obstetrics & Gynaecology

A 54-year-old female comes to the physician because of involuntary loss of urine. She states "Doc, whenever I laugh, cough, or sneeze, I am unable to hold my urine. I am afraid to leave the house." She has no involuntary loss of urine while sleeping. She had a hysterectomy four years ago. She has had no trauma to her head or back. She has no other medical problems and takes no

medications. Physical examination shows a relaxed anterior vaginal wall. Neurological examination shows no abnormalities. A cotton-tipped swab test reveals a urethral straining angle of 45 degrees when intra-abdominal pressure is increased. Urinalysis shows no abnormalities. Which of the following is most beneficial long-term management for this patient?

1. Oxybutynin therapy
2. Bethanechol
3. Alpha blockers
4. Oral hormone replacement therapy
5. Urethropexy

INCORRECT

The correct answer is 5.

Stress incontinence is characterized by the loss of small amounts of urine with increased intra-abdominal pressure, as occurs with laughing, coughing, or sneezing. Urine leakage results from ineffective closure of the urethral sphincter. This ineffective sphincter closure often results from weakening of the pelvic floor musculature, leading to urethral hypermobility. Urethral hypermobility may be diagnosed by inserting a cotton swab into the urethral orifice and demonstrating an angle of >30′ upon an increase in intra-abdominal pressure. Pregnancy, childbirth, menopause, and obesity are all risk factors for stress incontinence. This patient has the classic signs and symptoms of stress incontinence. Kegel exercises should be advised in all patients with stress incontinence to restore pelvic floor strength, but the most beneficial treatment for these patients is restoration of the urethrovesical angle by urethropexy.

(Choice 1) Oxybutynin therapy is used in the treatment of urge incontinence. Urge incontinence results from detrusor hyperactivity and is characterized by a sudden urge to urinate that may occur at any time-not just with increases in intra-abdominal pressure.

(Choices 2 & 3) Bethanechol and α-blockers are used in the management of overflow incontinence.

(Choice 4) Oral hormone replacement therapy is not recommended for the treatment of incontinence.

139. Question **1 points**

Category: Obstetrics & Gynaecology

A 14-year-old girl comes to the physician because of lower abdominal cramping. This cramping starts a few hours before, and lasts through, her menses, and then resolves completely. The cramping is primarily in the lower abdomen but also radiates to the back and thighs. She first noted

this cramping approximately 6 months after her first menstrual period at age 12. She is not sexually active. Physical examination is unremarkable, including a normal pelvic examination. A pregnancy test is negative. Which of the following is the most appropriate next step in management?

1. Trials of nonsteroidal anti-inflammatory drugs (NSAIDS)
2. Trial of antibiotics
3. GnRH agoinst therapy
4. Laparoscopy
5. Laparotomy

INCORRECT

The correct answer is 1.

This patient's presentation is most consistent with primary dysmenorrhea. Primary dysmenorrhea typically has its onset 6-12 months after menarche. Cramping occurs before menses and last 48-72 hours. Uterine ischemia and prostaglandins are believed to be responsible for the pain of primary dysmenorrhea. Pelvic examination is normal. Treatment of primary dysmenorrhea is with a trial of either nonsteroidal antiinflammatory drugs (NSAIDs) or oral contraceptive pills (OCPs). If these therapies fail to provide relief, further evaluation with ultrasound or laparoscopy may be warranted.

(Choice 2) would not be appropriate. Although infection can cause lower abdominal pain, this patient's history and physical are much more consistent with primary dysmenorrhea. A woman who presents with crampy lower abdominal pain should certainly be evaluated for an infection, but a trial of antibiotics would not be appropriate.

(Choice 3) is used for patients with secondary dysmenorrhea caused by endometriosis. This patient's presentation is more consistent with primary dysmenorrhea than with endometriosis. Even if this patient were to have endometriosis, she would benefit from a trial of OCPs prior to instituting GnRH agonist therapy.

(Choices 4 & 5) Laparoscopy and especially laparotomy are too invasive to be the most appropriate next step in management. This patient may have a case of primary dysmenorrhea that responds well NSAIDs. In that case, surgical evaluation would be completely unnecessary and not worth the risks. As noted before, if the trial of NSAIDs or OCPs fails, then the patient may be a candidate for a diagnostic laparoscopy

140. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old primigravid woman at 34 weeks gestation is brought to the emergency department following a motor vehicle accident. She had intense abdominal pain and became agitated and restless in the ambulance. She has mild vaginal bleeding and diffuse abdominal pain. She is on continuous fetal heart monitoring. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 16th week showed no abnormalities and an intrauterine gestation consistent with dates. Her blood pressure is 11 0/60mmHg, pulse is 110/min and respirations are 32/min. Physical examination shows hyperventilation, cold extremities and a distended abdomen with irregular contours. Feta l heart monitoring shows repetitive late decelerations and a long-term variability of 2 cycles/min. Which of the following is the most likely diagnosis?

1. Abruptio placenta
2. Placenta previa
3. Vasa previa
4. Uterine rupture
5. Rupture of ectopic pregnancy

INCORRECT

The correct answer is 4.

The patient most likely has a uterine rupture secondary to abdominal trauma. Typically, uterine rupture presents with intense abdominal pain associated with vaginal bleeding which can range from spotting to massive hemorrhage. The symptoms the patient had in the ambulance correspond with pain and may indicate an imminent rupture. After the rupture occurs, the patient may feel slightly relieved, but soon after, the pain returns in a more diffuse fashion. The presenting part may retract and no longer be palpable on pelvic exam, whereas the fetal limbs can become easily palpable on abdominal examination. The clinical presentation is, however, highly variable, so a high index of suspicion is required because any delay in diagnosis may be fatal for both the mother and the fetus.

(Choice 1) Uterine rupture can be difficult to distinguish from abruptio placenta, especially because they can both be caused by trauma. The abdominal physical findings in this case clearly indicate a uterine rupture, and uterine rupture is more likely to cause signs of hypovolemia and shock due to rapid exsanguination.

(Choice 2) Placenta previa typically presents with painless vaginal bleeding and does not generally lead to signs of rapid exsanguination as described.

(Choice 3) Vasa previa is a rare condition in which the fetal blood vessels traverse the fetal membranes across the lower segment of the uterus between the fetus and the internal cervical os. It presents with a painless antepartum hemorrhage associated with rapid deterioration of the fetal heart tracing as it is fetal blood that is being lost in this condition.

(Choice 5) Rupture of an ectopic pregnancy occurs most commonly in the first trimester. The patient described had a normal ultrasound at 16 weeks gestation.

141. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old woman in her first pregnancy came to the maternity unit at 39 weeks' gestation after an uncomplicated pregnancy. She had spontaneous onset of labor and progressed normally through the first and second stages of labor. During the second stage of labor, the electronic fetal monitor tracing showed frequent prolonged variable decelerations of the fetal heart rate down to 90/min and lasting 45 seconds. She underwent an outlet forceps vaginal delivery of a 3,100-g (6 lb 13 oz) female neonate. One minute after birth, the infant is noted to have acral cyanosis and a weak respiratory effort at a rate of 30/min. The baby's heart rate is 105/min, and a systolic murmur is heard. She flexes all four extremities weakly but only after external stimulation. When the neonate's nose and mouth are suctioned, she shows no response. She keeps her eyes closed. Which of the following is her assigned Apgar score at 1 minute?

1. 4
2. 5
3. 6
4. 7
5. 8

INCORRECT

The correct answer is 2.

The Apgar score is a five-parameter clinical assessment of the newborn made shortly after birth. The score made at 1 minute indicates the degree of resuscitation that is needed, while the 5-minute score indicates the success of the resuscitation efforts. The five parameters used to assign a score are skin color, respiratory effort, heart rate, muscle tone, and reflex irritability. A score of 7 to 10 is excellent and requires no intervention. A score of 3 or less indicates that immediate life-saving measures are needed. This infant will be assigned 1 point for pink body but blue extremities, 1 point for weak respiratory effort, 2 points for heart rate (because it is over 100/min), 1 point for muscle tone, and 0 for reflex irritability for a total score of 5.

(Choices 1,3,4 & 5) An Apgar score of 4, 6, 7, or 8 would be incorrect in this case.

142. Question **1 points**

Category: Obstetrics & Gynaecology

A 65-year-old woman has an 8-year history of involuntary loss of urine: she leaks small amounts of urine when she coughs, sneezes, or laughs. In providing a history to her physician, she complains about feeling pelvic pressure, but denies feeling a burning sensation upon urinating or having an abnormally strong urinary urgency or frequency. She has no loss of urine at night; however, the symptoms occur frequently enough that she needs to wear a perineal pad. She underwent menopause 12 years ago. For treatment of hot flashes, she initially used oral estrogen hormone replacement along with 7 days of medroxyprogesterone acetate 1 week of every month. For the last 8 years, she has not used any hormone therapy. Speculum examination reveals an atrophic vagina and cervix without lesions. Bimanual examination reveals a small, symmetrical, midline, mobile, nontender uterus. There are no adnexal masses. With the Valsalva maneuver, there is protrusion of her anterior vaginal wall. Which one of the following is the most likely diagnosis for the physical finding?

1. Cystocele
2. Urethral diverticulum
3. Gartner's duct cyst
4. Rectocele
5. Enterocele

INCORRECT

The correct answer is 1.

Urinary stress incontinence is an anatomic problem that develops when the proximal urethra and bladder neck drop below the pelvic floor because of lack of support due to pelvic relaxation. The increase in intraabdominal pressure is transmitted more to the bladder than to the urethra, resulting in involuntary urine loss with laughing, coughing, or sneezing. This condition may be associated with a cystocele, the bulging of the bladder into the upper anterior vaginal wall. However, the incontinence is not caused by the cystocele itself.

(Choice 2) is a localized outpouching of the urethra into the anterior vaginal wall; it is diagnosed via urethroscopy. Although it causes increased urinary frequency it does not lead to stress leakage.

(Choice 3) are found in the lateral vaginal wall and are remnants of the embryologic mesonephric duct.

(Choice 4) is associated with bulging of the posterior vaginal wall.

(Choice 5) is herniation of the pouch of Douglas into the upper posterior vaginal wall.

143. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old woman, gravid a 3, para 2, comes to the physician for the first time for a prenatal checkup. She changed her physician and in the interim has missed two prenatal checkups. She states that she is at 7 months gestation. According to her prenatal records and an ultrasound performed at 16 weeks gestation, she is now at 30 weeks, but her fundal height is only 26 cm (10 .2 inches). Feta l heart tones are heard by Doppler. Blood pressure is 140/90 mm Hg. You suspect fetal growth restriction (FGR) and order a repeat ultrasonogram. Which of the following is the single most useful parameter for predicting fetal weight by ultrasonogram in suspected FGR'?

1. Biparietal diameter
2. Abdominal circumference
3. Femur length
4. Head to abdomen circumference ratio
5. Calculated fetal weight

INCORRECT

The correct answer is 2.

Fetal growth restriction (FGR) may be symmetrical and asymmetrical. In symmetrical growth restriction, the insult to the fetus occurs before 28 weeks gestation and growth of both the head and the body is deficient. Symmetric FGR is typically the result of fetal defects such as genetic anomalies or early congenital infections (TORCH). Asymmetric FGR results from insults occurring after 28 weeks and is characterized by a normal or almost normal head size and a reduced abdominal circumference. FGR is suspected when fundal height is at least three cm less than the actual gestational age in weeks, and confirmation of FGR is subsequently obtained by ultrasonography. Abdominal circumference is the most reliable index for estimation of fetal size because it is affected in both symmetric and asymmetric fetal growth restriction.

(Choice 1) Biparietal diameter will be normal or close to normal in asymmetric FGR as blood is preferentially shunted to supply the fetal brain in these cases. The biparietal diameter will be decreased, however, in symmetric FGR.

(Choice 3) Femur length is used to estimate fetal size, but it is not as accurate an indicator of fetal size as abdominal circumference.

(Choice 4) The head to abdomen circumference ratio can be used to differentiate symmetric from asymmetric FGR, but this ratio will not give an approximation of fetal weight or overall fetal size.

(Choice 5) Fetal weight is calculated using fetal measurements, such as abdominal circumference, that are obtained by ultrasound.

144. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old woman is admitted for delivery. She began experiencing regular, painful uterine contractions three hours ago and her water broke en route to the hospital. The cervix is 5 cm dilated and 80% effaced. The fetal presentation is vertex and the baby's head is at -1 station. After placing a fetal heart monitor and external tocometer, repetitive decreases in fetal heart rate are noted which begin at the same time as the contractions and end before the contractions have ceased. Which of the following is most likely responsible for the fetal heart pattern?

1. Periods of fetal sleep
2. Umbilical cord compression
3. Fetal head compression
4. Uteroplacental insufficiency
5. Intrauterine infection

INCORRECT

The correct answer is 3.

The pattern of fetal heart rate decelerations described in this vignette is consistent with early decelerations. An early deceleration is characterized by a drop in fetal heart rate of 15 beats/min which lasts for at least 15 seconds. The deceleration in heart rate begins with initiation of the uterine contraction, and resolves by the time the contraction has ceased. Early decelerations are not associated with fetal acidosis or negative neonatal outcomes. Therefore, they are not classified as a non-reassuring heart rate pattern. Late decelerations, on the other hand, are associated with fetal acidosis and negative neonatal outcomes, and are classified as a non-reassuring heart rate pattern. Late decelerations are distinguished from early decelerations by heart rate depression which begins at or after the peak of the uterine contraction and continues after the uterine contraction has ceased. Early decelerations occur in the setting of fetal head compression, while late decelerations occur in the setting of uteroplacental insufficiency.

(Choice 1) Fetal sleep presents with decreased long-term variability.

(Choice 2) Fetal cord compression presents with variable decelerations.

(Choice 4) Uteroplacental insufficiency presents with late decelerations.

(Choice 5) Intrauterine infections may present with fetal tachycardia (HR> 160).

145. Question **1 points**

Category: Obstetrics & Gynaecology

A 45-year-old white female has undergone a right mastectomy for a node-negative, estrogen and progesterone receptor-positive tumor. She is scheduled to begin adjuvant therapy with tamoxifen. Her menstrual cycles are regular and her last menstrual period was 15 days ago. She has many concerns about tamoxifen therapy and would like to know its risks and benefits. Which of the following is she at risk for?

1. Osteoporosis
2. Vaginal candidiasis
3. Endometrial cancer
4. Ovarian cancer
5. Ischemic optic neuropathy

INCORRECT

The correct answer is 3.

Tamoxifen is a selective estrogen receptor modulator (SERM) with mixed agonist/antagonist effects on estrogen receptors. It is an antagonist of estrogen receptors in the breast, and is used in the treatment and prevention of breast cancer. It acts as a partial-agonist of estrogen on the endometrium and increases risk for endometrial carcinoma. Tamoxifen therapy shows an overall mortality benefit, as the improved survival from breast cancer outweighs the increased incidence of endometrial cancer.

(Choice 1) Tamoxifen acts as an estrogen receptor agonist on osteoclasts, inhibiting bone turnover and thereby decreasing the risk for osteoporosis.

(Choice 4) There is no definitive data showing an effect of tamoxifen on the risk of ovarian cancer.

(Choice 5) Ischemic optic neuropathy is associated with use of phosphodiesterase inhibitors such as sildenafil (Viagra) and vardenafil.

146. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old primigravid woman comes for her initial prenatal visit at 24 weeks' gestation. Her only complaint is low back pain. She has no significant past medical history, and she has had no complications of pregnancy thus far. She does not use tobacco, alcohol, or drugs. Her vital signs are within normal limits. Complete physical examination shows no abnormalities. During the interview she requests screening for diabetes because her friend was diagnosed with gestational diabetes at 26-weeks of gestation. Which of the following is the most appropriate screening procedure for this patient?

1. Fasting and random urine sugar
2. One time fasting blood sugar
3. 75 gram oral glucose tolerance test
4. One hour 50 gram oral glucose tolerance test
5. Three hour 1 00 gram oral glucose tolerance test

INCORRECT

The correct answer is 4.

Screening for gestational diabetes should be performed in all pregnant women. In high-risk women it is done at the first prenatal visit; in all other patients it is done between the 24th and 28th weeks of gestation. The one hour 50 gram oral glucose tolerance test (OGTT) is used as the initial screening test. After one hour, if the blood glucose value is less than 140 mg/dl, gestational diabetes is ruled out. If the blood glucose value is > 140 mg/dl, a three hour 100 gram OGTT is then performed. Gestational diabetes is diagnosed if two or more of the serum glucose values obtained during the three hour test are elevated above the values listed below:

Fasting serum glucose concentration >95 mg/dl
One-hour serum glucose concentration > 180 mg/dl
Two-hour serum glucose concentration > 155 mg/dl
Three-hour serum glucose concentration > 140 mg/dl

(Choice 3) A two hour 75 gram glucose tolerance test is an acceptable alternative to the three hour 100 gram glucose tolerance test in women who screen positive during the one hour 50 gram glucose tolerance test.

147. Question **1 points**

Category: Obstetrics & Gynaecology

A 64-year-old woman undergoes left radical mastectomy for breast cancer. A 4-cm infiltrating ductal carcinoma is found on pathologic examination. Four of 20 axillary lymph nodes are positive for malignancy. Neoplastic cells are immunoreactive for estrogen and progesterone receptors. No evidence of metastatic disease is found on bone scanning with 99m Tc-labeled phosphate or chest x-ray films. The patient receives appropriate radiation therapy and multidrug chemotherapy. Which of the following is the most appropriate adjunctive therapy in this setting?

1. Danazol
2. Ethinyl estradiol

3. Megestrol acetate
4. Medroxyprogesterone acetate
5. Natural progesterone
6. Tamoxifen

INCORRECT

The correct answer is 6.

After surgery and radiation therapy, chemotherapy and other forms of adjunctive treatments are recommended for most cases of potentially curable breast cancer. Chemotherapeutic regimens vary in relation to whether patients are pre or post-menopausal, but hormonal adjunctive treatment has proven beneficial in both groups. Tamoxifen is an antiestrogen used for treatment of breast cancer, and tumors that express estrogen/progesterone receptors respond better to it. In addition, tamoxifen results in better survival regardless of tumor staging or grading. Therefore, receptor status is evaluated routinely in breast cancer by immunohistochemical staining with antibodies to estrogen/progesterone receptors. However, the physician must be on the alert for paradoxical tamoxifen-induced endometrial hyperplasia.

(Choices 1 & 4) Danazol and medroxyprogesterone acetate are used to treat a variety of gynecologic conditions, including endometriosis and abnormal uterine bleeding, but certainly not breast cancer. Danazol has also been used for symptomatic mammary dysplasia (fibrocystic changes).

(Choice 2) is used for treatment of abnormal uterine bleeding, estrogen replacement therapy, and adjunctive hormonal treatment for prostatic carcinoma.

(Choice 3) has been used for treatment of prostatic hyperplasia and endometrial cancer. This compound is also used for postmenopausal women with breast cancer in whom tamoxifen is not effective. In the latter situation, megestrol acetate is thus used as a second-line hormonal agent.

(Choice 5) may benefit women with premenstrual syndrome.

148. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old G2 P 1 woman at 12 weeks gestation comes to the physician because of foul smelling vaginal discharge. She is sexually active and reports no previous problems. Speculum examination reveals a grayish, foul-smelling discharge, but no erythema or edema is noted on the vaginal walls or the vulva. There is no cervical or adnexal tenderness. A saline wet mount examination reveals numerous epithelial cells coated with bacteria. No white blood cells are seen. Which of the following is the most appropriate pharmacotherapy for this patient?

1. Metronidazole
2. Acyclovir
3. Doxycycline
4. Fluconazole
5. Azithromycin

INCORRECT

The correct answer is 1.

Bacterial vaginosis is a common cause of vaginitis that is caused by the bacteria Gardnerella vaginalis. Bacterial vaginosis manifests with a profuse ivory to gray malodorous discharge with a pH of 5 to
6 .5. The discharge has a characteristic amine or “fishy” odor that can be accentuated by the addition of potassium hydroxide (KOH). Itching and burning are not usual, and on examination the vaginal epithelium and cervix are not typically inflamed. Identifying “clue cells” on a wet-mount preparation of the discharge makes the diagnosis. Clue cells are characteristic epithelial cells diffusely coated with bacteria. Treatment of bacterial vaginosis is oral metronidazole 500mg twice daily for 7 days. Treatment during pregnancy is essentially same.

(Choice 2) Acyclovir is used to treat herpes simplex infections. Use of acyclovir during pregnancy is permitted because the risk of HSV to the fetus is greater than the risk of the treatment.

(Choice 3) Doxycycline is contraindicated during pregnancy because it is deposited in fetal bones and teeth.

(Choice 4) Fluconazole (single dose) is safe for use in pregnancy for candidal infections.

(Choice 5) Azithromycin, a macrolide antibiotic, is safe for use in pregnancy. Erythromycin estolate, however, is contraindicated as it may cause acute cholestatic hepatitis.

149. Question **1 points**

Category: Obstetrics & Gynaecology

A gravida 4, para 1, abortus 2, 31-year-old woman presents for prenatal care in the middle of her second trimester. She has a positive history of substance abuse preceding and during this pregnancy. Her first pregnancy ended with an emergency cesarean sec- tion delivery at 34 weeks’ gestation because of significant painful vaginal bleeding associated with fetal bradycardia. On ultrasound examination, her singleton fetus is noted to have a limb reduction defect of the right lower extremity. Which of the following abused substances is most associated with this fetal anomaly?

1. Tobacco
2. Alcohol
3. Narcotics
4. Amphetamines
5. Cocaine

INCORRECT

The correct answer is 5.

A frequent adverse effect associated with maternal prenatal use of many substances is intrauterine growth restriction (IUGR) and preterm delivery. However, of all the choices provided for this case, only cocaine has clearly defined vascular disruption anomalies such as intestinal atresia, limb-reduction defects, and brain anomalies. It is also associated with abruptio placenta, which was the most likely cause of the problems that led to the 34-week emergency cesarean described in the scenario. Although the other choices have an adverse impact on pregnancy outcome, they do not cause limb-reduction defects.

(Choices 1,2,3 & 4) Tobacco is associated with IUGR, alcohol is associated with fetal alcohol syndrome, and narcotics and amphetamines can lead to an addicted newborn.

150. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old, gravida 1, para 0, at 13 weeks gestation is brought to the emergency department because of vaginal discharge and lower abdominal discomfort. She has had no passage of tissue from her vagina. She does not use tobacco, alcohol or drugs. She has no history of trauma. Her temperature is 37.0 °C (98.7 °F), blood pressure is 128/80 mmHg, pulse is 76/min and respirations are 14/min. Physical examination shows a closed cervix, a slightly tender uterus with a size consistent with gestational age, free adnexae and scant bright red bleeding from the introitus. Ultrasonogram in the emergency department shows normal fetal heart motion. She is anxious and concerned about her baby. Which of the following is the most appropriate next step in management?

1. Quantitative β-hCG measurement
2. Hospitalization, bed rest and close observation
3. Intravenous infusion of methotrexate
4. Dilation and suction curettage

5. Reassurance and outpatient follow up

INCORRECT

The correct answer is 5.

The patient described is experiencing a threatened abortion. The first step in a threatened abortion is to ascertain that the fetus is present and alive. Once this is confirmed with ultrasound, management is essentially reassurance and performance of an ultrasonogram one week later. Bed rest and abstaining from sexual intercourse are usually recommended because this will prevent any feelings of guilt on the part of the parents in the case that pregnancy is actually lost; however, there is no evidence of the benefit of these interventions on the outcome.

(Choice 1) β-hCG measurement will not provide any more information and is not needed.

(Choice 2) Hospitalization is not necessary in threatened abortion. Bed rest and abstaining from sexual intercourse can be recommended for the aforementioned reasons.

(Choice 3) Methotrexate is used for treatment of ectopic pregnancy. Use of methotrexate in this patient would terminate the pregnancy- an undesired effect in an otherwise normal intrauterine pregnancy.

(Choice 4) Dilation and curettage is a common treatment for missed abortion as the cervix is closed and expulsion of the expired fetus does not always occur spontaneously.

151. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old woman, gravid a 1 , is in active labor. Lumbar epidural anesthesia is being used for pain control. She is having contractions every two to three minutes. The cervix is 4 cm dilated. Feta l heart rate is reassuring. Her blood pressure is 90/55 mm Hg and heart rate is 120/min. What is the most probable cause of her hypotension?

1. Depressed myocardial contractility
2. Intravascular fluid loss
3. Blood venous pooling
4. Blood redistribution to the upper trunk
5. CNS involvement

INCORRECT

The correct answer is 3.
The clinical scenario described is suggestive of hypotension as a side effect of epidural anesthesia. Hypotension complicates up to 10% of epidural blocks given during labor, but if considered early, can be easily prevented and treated. The cause of hypotension is sympathetic fiber block that results in vasodilatation of the lower extremity vessels. Blood redistribution to the lower extremities **(Choice 4)** and
venous pooling occur. Cardiac output decreases and hypotension results.
(Choice 1) Depressed myocardial contractility develops during myocardial infarction and is usually accompanied by chest pain and dyspnea, and the hypotension due to cardiogenic shock has dismal
prognosis.
(Choice 2) IntraVascular fluid loss is typically caused by external or internal hemorrhage, which is unlikely in this case because no obvious source of blood loss is present.
(Choice 5) CNS involvement with vasoregulatory center block is a rare, but very dangerous complication of epidural anesthesia. CNS symptoms (e.g., excitation, disorientation, seizure) usually precede cardiovascular symptoms in such a case.

152. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-oldwoman with breast cancer presents to her physician complaining of increased weakness, lower back pain, and urinary incontinence. She was diagnosed with breast cancer 2 years ago and is undergoing radiation and chemotherapy. Her back pain developed 2 days ago. Physical examination shows lower extremity weakness and hyporeflexia. Which of the following is the most appropriate next step in this patient's care?

1. Obtain a neurologic consultation
2. Obtain an emergency spinal MRI
3. Administer narcotics for pain relief
4. Administer high-dose steroids
5. Perform a lumbar puncture

INCORRECT
The correct answer is 4.
This patient probably has breast cancer metastases to the spine and is in danger of spina, cord compression, which is an emergency. It is essential to administer steroids immediately to help decrease the swelling and relieve some compression. She might ultimately need surgical intervention or radiation.

(Choice 1) will help localize the lesion; however, this is an emergency and must be treated immediately.
(Choice 2) An MRI will localize the lesion but should not delay emergent intervention.
(Choice 3) Narcotics would provide only symptomatic relief.
(Choice 5) A lumbar puncture might reveal maligna cells on cytologic evaluation but would not contribute to her immediate management.

153. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-oldwoman presents with complaints of a vaginal discharge. She has had two sexual partners over the past 4 weeks, and she reports that she uses oral contraceptives and that her partners were not using condoms. Examination shows she is afebrile, with no lymphadenopathy. Pelvic examination shows no ulcers, but a thick white discharge is noted at the cervical os on speculum examination. A Gram stain of the discharge reveals gram-negative diplococci. A sample of the discharge is also sent out for culture. The patient is appropriately treated and returns unhappily 3 weeks later with identical symptoms. A Gram stain of the discharge is again done, and this time reveals no organisms. Which of the following is the most likely cause of her symptoms?

1. Noncompliance with antibiotic therapy
2. Reinfection due to an occult urethral source
3. Reinfection from an untreated sexual partner
4. A resistant strain of the original organisms
5. An undetected, underlying immunosuppression

INCORRECT

The correct answer is 3.

This patient has vaginal discharge and multiple sexual partners and does not use condoms, all of which suggests the presence of a sexually transmitted disease such as gonorrhea. Although Gram stain of cervical cultures is positive only 60% of the time, the presence of gram-negative diplococci is specific for the disease. It is extremely important to treat both patients and their partners for gonorrhea, because reinfection is usually caused by sexual exposure to an untreated partner. The standard treatment is a single intramuscular injection of ceftriaxone followed by a
7-day course of doxycycline to cover for the commonly co-occurring Chlamydia (note that in pregnant women, erythromycin is used instead of doxycyline to avoid tooth-mottling in the fetus).

The remaining choices answer choices are possible sources of recurrence, but are not the most likely cause of this patient's presentation.

154. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old woman, gravida 3, para 2, at 16 weeks' gestation comes to the physician concerned that she may have been exposed to an infectious disease. Yesterdays, he and her 5-year-old son spent a day at the beach with one of his classmates. This morning, the classmate was sent home from school with a fever and rash that the teacher thought were suspicious for chickenpox. The patient is unsure whether she had chickenpox as a child. Her temperature is 37 C (98.6 F), blood pressure is 100/70 mm Hg, pulse is 88/min, and respirations are 16/min. Her examination is unremarkable. An inquiry made by the physician confirms that the classmate has chicken pox. Which of the following is the most appropriate next step in management?

1. Check an IgG varicella serology
2. Wait to see whether a rash develops
3. Administer IV acyclovir
4. Administer oral acyclovir
5. Administer varicella vaccine

INCORRECT

The correct answer is 1.

The varicella-zostervirus, the virus that causes the clinical manifestations that is commonly referred to as "chickenpox:' can have severe consequences for a mother and her fetus during pregnancy. Fortunately, most pregnant women have already been exposed. And, of those pregnant women who are not sure whether they had chickenpox, the overwhelming majority will also have already been exposed and be immune to infection. The ideal time to screen for immunity to varicella is preconceptionally. If a pregnant woman thinks she has been exposed, then the first step is to verify that the infected person truly has varicella. The next step is to check the mother's IgG serology. If her serology is positive, then she has immunity and there is no risk to her or her fetus. If the serology is negative, she should be given varicella-zoster immune globulin (VZIG), which is about 75% effective in preventing an infection if given within 96 hours of exposure.

(Choice 2) would not be appropriate. The incubation period for the virus is 10-14 days. VZIG is most effective if given within 96 hours of exposure. Therefore, this patient may not develop a rash for 10 or more days, and by that time it would be too late for VZIG.

(Choice 3) would be inappropriate. First, the mother most likely has already had varicella infection and is therefore immune. Second, the mother has no evidence of being infected. Finally, even in the case of a confirmed maternal infection, N acyclovir is used only when serious complications of varicella infection (e.g., pneumonia or encephalitis) develop.
(Choice 4) would be inappropriate for the above listed reasons.
(Choice 5) would be contraindicated because it is an attenuated live-virus vaccine. These vaccines are not recommended for pregnant women.

155. Question **1 points**

Category: Obstetrics & Gynaecology

At a routine prenatal visit, a 28-year-old woman, gravida 5, para 4, at 28 weeks' gestation, reports that she has not felt the baby move for 2 days. She first felt fetal movement at 17 weeks' gestation. She denies any vaginal bleeding or fluid leakage. Her pregnancy has been complicated by chronic hypertension, for which she is being treated with twice-daily tablets of methyldopa. She is afebrile and her vital signs are stable. On physical examination, you measure the fundal height at an appropriate 30 cm. Four weeks ago, the fundus measured 26 cm. Leopold's maneuvers reveal the fetus to be in transverse lie. Her blood pressure is 145/85 mm Hg. A urine dipstick test result is negative for albumin. You are unable to obtain fetal heart tones with a Doppler fetoscope. Which of the following is the most appropriate next step in the management of this patient?

1. Perform a nonstress test.
2. Perform an amniocentesis.
3. Obtain a real-time ultrasound assessment for cardiac motion.
4. Obtain a maternal abdominal x-ray assessment of the fetus.
5. Perform a quantitative β-human chorionic gonadotropin (β-hCG) assay.

INCORRECT

The correct answer is 3.

The case is strongly suggestive of intrauterine fetal death (IUFD). From a medical standpoint, once the embryo completes formation of all the organs at 10 menstrual weeks, it is referred to as a fetus. However, legally and technically, the definition of IUFD is fetal demise on or after 20 weeks' gestation. Prior to 20 weeks, it is legally referred to as a spontaneous abortion. IUFD complicates approximately 3 per 1,000 pregnancies. Real-time ultrasound examination for cardiac motion is the method of choice for ascertaining fetal death. Failure to visualize cardiac motion is diagnostic. Other signs are overlapping of the skull bones. Maternal assessment of fetal movement (kicking) is not accurate in sensitivity or specificity.

(Choice 1) is the appropriate next step in management with maternal report of decreased fetal movement but would not be helpful in this case.
(Choice 2) is an invasive test that relies on the finding of dark, turbid fluid, which is a late development. It is not appropriate to diagnose IUFD.
(Choice 4) Exposure of a possibly live fetus to x-rays is not recommended.
(Choice 5) The pregnancy test remains positive for a considerable time because the placenta continues to produce β-human chorionic gonadotropin (β-hCG), thus is not appropriate.

156. Question **1 points**

Category: Obstetrics & Gynaecology

A 14-year-old female is brought to the physician's office for evaluation of excessive menstrual bleeding. She experienced menarche at age 13, and since then her menses have been irregular and unpredictable. Her last menstrual period was 6 weeks ago and for the past week she has been having heavy menstrual bleeding. She has never been sexually active. Vital signs are stable. Her external genitalia are normal. She refused pelvic examination, and a pregnancy test is negative. Which of the following is the most likely cause of her symptoms?

1. ○ Bleeding disorder
2. ○ Anovulation
3. ○ Cervical polyp
4. ○ Endometrial carcinoma
5. ○ Uterine fibroids

INCORRECT

The correct answer is 2.

The patient described is most likely experiencing menorrhagia, which is defined as prolonged or heavy menstruation, typically lasting longer than 7 days or exceeding 80 ml. In a young patient that has only recently experienced menarche, heavy menses with an irregular cycle can be attributed to anovulatory cycles. Females in this age group have an immature hypothalamic-pituitary-ovarian axis that may fail to produce gonadotropins (LH and FSH) in the proper quantities and ratios to induce ovulation. Up to 90% of all menstrual cycles in the first year after menarche may be anovulatory. Because the endometrium is responsive to baseline estrogen levels during the female's cycle, the endometrium will develop and eventually slough resulting in some cyclic bleeding due to a breakthrough phenomenon.

(Choice 1) Bleeding disorders (coagulopathies) result in unusually heavy menses (not irregular) that may frequently require blood transfusions.
(Choice 3) Cervical polyps are common benign neoplasms of the cervix that may cause occasional bleeding, especially following trauma as may occur during intercourse. Irregular periods are not
seen. Polyps are not common in this age group.
(Choices 4 & 5) Endometrial carcinoma and uterine fibroids are potential causes of abnormal uterine bleeding particularly in the postmenopausal age group. These are unlikely in the patient described.

157. Question **1 points**

Category: Obstetrics & Gynaecology

A 39-year-old woman, gravida 3, para 2 at 34 weeks' gestation, with a known history of chronic hypertension, is found to have a blood pressure of 180/115mm Hg at a routine prenatal visit. Her prenatal course had been otherwise unremarkable. She is transferred to the labor and delivery ward for further management. IV antihypertensive medications should be given to this patient with a goal of which of the following blood pressures?

1. 90/60 mm Hg
2. 100/75mm Hg
3. 120/80mm Hg
4. 150/95mm Hg
5. 180/110mm Hg

INCORRECT

The correct answer is 4.

The management of an acute hypertensive episode during pregnancy presents a challenge. On the one hand, it is important to lower the blood pressure of the mother to prevent the development of a hypertensive emergency (e.g., hypertensive encephalopathy, cardiac decompensation, or damage to other organs). Extreme hypertension is also a risk for placental abruption. On the other hand, lowering the blood pressure too much may lead to under perfusion of the placenta and fetal distress. The goal of antihypertensive therapy during an acute episode of severe hypertension is not to lower the blood pressure to normotensive levels but rather to a mild-moderate hypertensive level, with a diastolic blood pressure of 90-100 mm Hg. In this patient, 150/95 mm Hg is a good target blood pressure.

(Choices 1 & 2) Blood pressures of 90/60 mm Hg or 100/75 mm Hg are too low. Lowering the maternal blood pressure to this level could lead to hypoperfusion of the placenta and fetal distress.
(Choice 3) is normal for nonpregnant patients. However, acutely lowering this patient's blood pressure from 180/115 mm Hg to 120/80 mm Hg could lead to fetal distress.
(Choice 5) is too high to use as a goal for antihypertensive therapy. A level of 150/95 mm Hg represents the best compromise between too high versus too low in a chronically hypertensive pregnant patient.

158. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old primigravid woman comes to the physician because of recent onset amenorrhea. Her last menstrual period was 7 weeks ago, and she has had nausea for the past 2 weeks. A urine pregnancy test is positive. She is being evaluated for dysphagia, and one-week ago she had a barium swallow examination. She is concerned for the baby because of her recent exposure to radiation. Which of the following is the most appropriate next step in management?

1. Reassurance and regular antenatal check-ups
2. Advise therapeutic abortion
3. Explain the risks and benefits of abortion
4. Advise amniocentesis and karyotyping
5. Pelvic ultrasonogram

INCORRECT

The correct answer is 1.

The effects of ionizing radiation on fetal cells are dose-dependent and dependent on the gestational age when the exposure occurs. Exposure to very high doses of radiation in the pre-implantation stage may kill the blastocyst; exposure to 1-2 Gy was required to cause this effect in animal studies. The fetus is most susceptible to damage from ionizing radiation between 8 and 15 weeks gestation. The most commonly observed fetal effects of ionizing radiation exposure are mental retardation, microcephaly, abnormal genitalia, growth restriction, microphthalmia and cataracts. Feta l effects have not been observed with exposures to less than 5 rad (5 cGy) of ionizing radiation. The exposure to the uterus caused by a barium swallow is approximately 6 millirad. Therefore, the patient in this case should be reassured that the risk for any deleterious effect in their fetus is not higher than the risk in the general population.

(Choices 2 & 3) Therapeutic abortion is advised when the radiation level is between 5 and 10 cGy. This patient has been exposed to radiation through a diagnostic method, so the level is less than 5 cGy.
(Choice 4) Amniocentesis and karyotyping is useful if the a chromosomal genetic abnormalities was suspected, but this is not the case here.
(Choice 5) At this stage of pregnancy, ultrasound will only show the gestational sac and may not yet exhibit cardiac activity.

159. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman, gravida 2, para 1, comes to the physician for a prenatal visit at 36 weeks' gestation. At 28 weeks, she was diagnosed with gestational diabetes on the basis of an abnormal glucose tolerance test. Since then, she has been able to control her blood sugar levels with an improved diet regimen. She has no medical problems and has taken only prenatal vitamins during the pregnancy. Which of the following is the most appropriate postpartum management of this patient?

1. ○ No postpartum follow-up is necessary
2. ○ Perform 2-hour, 75-g glucose tolerance test at 6-week postpartum visit
3. ○ Start oral hypoglycemics at 6-week postpartum visit
4. ○ Start subcutaneous insulin at 6-week postpartum visit
5. ○ Refer for pancreatic transplantation after 6-week postpartum visit

INCORRECT

The correct answer is 2.

Patients who are diagnosed with gestational diabetes are known to be at increased risk for the eventual development of overt diabetes. In fact, there is an approximately 50% likelihood that a woman with gestational diabetes will develop overt diabetes within the next 20 years. Therefore, women with gestational diabetes should be screened postpartum to determine whether they have diabetes so that prompt intervention can be initiated.
(Choice 1) To state that no postpartum follow-up is necessary is incorrect. One of the benefits of screening for gestational diabetes in pregnancy is to identify women who may eventually develop overt diabetes.
(Choices 3 & 4) To start either oral hypoglycemics or subcutaneous insulin at the 6-week postpartum visit would be incorrect. This patient may not have diabetes and may never develop diabetes. To start her on oral hypoglycemics or subcutaneous insulin on the basis of

her gestational diabetes would therefore not be proper. She should, however, be screened for diabetes at the 6-week postpartum visit.
(Choice 5) To refer the patient for pancreatic transplantation after her 6-week postpartum visit would not be correct management.

160. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old Australian woman, gravida 3, para 2, has a history of a seizure disorder since 10 years of age. She is currently at 17 weeks' gestation and is being treated with phenytoin orally three times per day. A phenytoin level determined on a sample drawn a week ago is within the therapeutic range. First-trimester bleeding that spontaneously resolved with conservative management complicated her prenatal course. Blood for a maternal serum triple-marker screen was drawn 10 days ago, but the results are not yet available. A complete blood count (CBC) was obtained as part of her routine prenatal laboratory tests. On her first prenatal visit, she was given a prescription for prenatal vitamins. At this time, the following values are noted: hemoglobin (Hgb), 9.3; hematocrit (Hct), 29; mean corpuscular volume (MCV), 150 μm^3 (normal is 80-100 μm^3). Which of the following is the most likely diagnosis?

1. Sickle cell trait
2. Iron deficiency
3. Physiologic anemia
4. Folate deficiency
5. Thalassemia

INCORRECT
The correct answer is 4.
Anemia in pregnancy is a common medical complication. Maternal megaloblastic anemia in pregnancy is most commonly caused by folate deficiency. Vitamin B_{12} deficiency, also a cause of megaloblastic anemia, is associated with infertility and thus is seldom seen with pregnancy. Anticonvulsants are known to decrease folic acid absorption, so folate deficiency is associated with their use even when supplemented in the typical multivitamin pill. Fetal congenital malformations due to folic acid deficiency can occur as rare complications of anticonvulsant therapy, specifically treatment with phenytoin. However, phenytoin can diminish absorption of folate, resulting in macrocytosis, as seen in this patient.
(Choices 1,2,3 & 5) All of the other options listed sickle cell trait, iron deficiency, physiologic anemia, and thalassemia are associated with either normal or low mean corpuscular volume (MCV).

161. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old woman, gravida 3, para 2, at 39 weeks' gestation comes to the hospital for elective repeat cesarean delivery. She had a cesarean delivery 5 years ago for arrest of dilation, followed by an elective repeat cesarean delivery 2 years ago. She had nausea and vomiting in the first and early second trimester, but otherwise had an unremarkable prenatal course. Other than her two cesarean deliveries, she has no past medical or past surgical history. She took prenatal vitamins throughout the pregnancy and is allergic to penicillin. Which of the following outcomes is most likely given this mode of delivery?

1. Fracture of the fetal clavicle
2. Fracture of the fetal femur
3. Maternal perineal trauma
4. Shoulder dystocia
5. Transient tachypnea of the newborn

INCORRECT

The correct answer is 5.

Newborns delivered by cesarean have a higher rate of transient tachypnea compared with newborns delivered via vaginal delivery. One hypothesis for this finding is that vaginal delivery leads to compression of the fetal thorax and removal of pulmonary fluid, which can cause transient tachypnea of the newborn. Also, some would argue that other factors in the process of vaginal delivery better prepare the newborn for extrauterine life from a pulmonary standpoint. Most of these cases resolve without serious sequelae.

(Choices 1 & 2) Fracture of the fetal clavicle and fracture of the fetal femur can occur during a cesarean delivery but are more common with a vaginal delivery. However, when obtaining consent from a patient for cesarean delivery, it is important to inform her that there is a risk of injury to the baby. Many patients are under the mistaken assumption that cesarean delivery implies no risk whatsoever of injury.

(Choice 3) is far more likely to occur with a vaginal delivery than with a cesarean delivery. An uncomplicated cesarean delivery should lead to no perineal trauma at all. Some physicians argue that because the perineal trauma that women experience with a vaginal delivery can lead to incontinence and pelvic organ prolapse in the future, women should be allowed to choose cesarean delivery as an elective procedure. However, this is not the standard of care for most practitioners or institutions.

(Choice 4) is far more likely to occur with a vaginal delivery than with a cesarean delivery. However, there is still some risk of shoulder dystocia and fetal injury during a cesarean delivery.

162. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old nulligravid patient presents to her physician seeking preconceptional advice. She plans to conceive in about 1 year. Her past medical history is significant for chickenpox as a child. She had an appendectomy 2 years ago. She takes no medications and is allergic to penicillin. Her complete physical examination, including a pelvic examination, is unremarkable. Which of the following is the most appropriate next step in diagnosis to prevent morbidity in this patient>s offspring?

1. Blood cultures
2. Group B Streptococcus culture
3. Pelvic ultrasound
4. Rubella titer
5. Urine culture

INCORRECT

The correct answer is 4.

Preconceptional counseling is an essential part of the care of any young woman who plans to become pregnant. A detailed history and physical should be performed, including past obstetric history and any family history of congenital anomalies. Laboratory tests should include a rubella titer and a varicella-zoster titer. If the patient has a negative rubella titer, she should be given the MMR (measles-mumps rubella) vaccine. Being vaccinated against rubella will prevent her from acquiring rubella during pregnancy. Rubella infection during pregnancy can lead to congenital rubella syndrome, a potentially devastating disorder that can lead to ear, eye, brain, and heart anomalies in the fetus. The patient should be counseled to avoid becoming pregnant for 3 months after the immunization since this is a live attenuated vaccine.

(Choice 1) Blood cultures are performed on patients when there is concern for bacteremia (bacteria present in the blood). This patient has no evidence of infection, and routine preconceptional blood cultures are not indicated.

(Choice 2) is performed on pregnant women in the third trimester to determine whether they have been colonized with this bacterium. If a woman is colonized, she should be given antibiotics in labor to prevent G'BS disease in the newborn. This culture is performed in the

third trimester and would not be indicated preconceptionally.
(Choice 3) is an excellent diagnostic tool for imaging the pelvis. It is useful in the diagnosis of ectopic pregnancy, ovarian torsion, tubo-ovarian abscess, ovarian masses, and other pelvic processes. It would not be indicated in an asymptomatic 26-year-old with a normal pelvic examination.
(Choice 5) is used to diagnose a urinary tract infection (UTI). This patient has nothing in her history or physical that suggests active UTI or susceptibility to UTI. Therefore, urine culture would not be indicated in this patient.

163. Question **1 points**

Category: Obstetrics & Gynaecology

A 16-year-old woman, gravida 1, para 0, presents to the outpatient office for a routine prenatal visit at 34 weeks' gestation. Her blood pressure (BP) is 150/95 mm Hg and remains elevated after 10 minutes of rest in the left-lateral position. Urine dipstick testing reveals 1+ glucose and 2+ albumins. She denies vaginal bleeding, leakage of vaginal fluid, headache, epigastric pain, or visual disturbances. Her BP on her initial prenatal visit at 14 weeks' gestation was 120/75 mm Hg. An obstetric sonogram obtained at 18 weeks' gestation confirmed her dates and showed normal fetal anatomy. Her maternal grandfather has adult-onset diabetes. Her mother and maternal grandmother both have chronic hypertension. Which of the following is the most likely explanation for the findings in this patient?

1. Blunted angiotensin response
2. Elevated β-endorphin level
3. Acute diffuse vasoconstriction
4. Primary renal disease
5. Chronic hypertension

INCORRECT
The correct answer is 3.
The case presentation describes the findings in a patient with preeclampsia associated with acute diffuse vasoconstriction, which typically occurs in primigravidas during the last trimester of pregnancy. This entity is characterized by sustained hypertension (with blood pressure ≥ 140/90) along with significant proteinuria (1–2+ on dipstick testing or ≥300 mg on a 24-hour urine collection).
(Choices 1 & 2) Preeclampsia is characterized by an enhanced angiotensin response rather than a blunted one, which is the normal physiologic response with pregnancy. This condition is usually unrelated to elevated β-endorphin level, which is a frequent physiologic stress

response to the pain of labor.
(Choices 3 & 4) The history provided is not characteristic of primary renal disease or chronic hypertension, which is diagnosed if the hypertension either was present prior to the pregnancy or had its onset prior to 20 weeks' gestation.

164. Question **1 points**

Category: Obstetrics & Gynaecology

An 85-year-old woman comes to the physician because of pelvic pressure and the feeling that something is coming out of her vagina. She has a history of coronary artery disease and is status post a three-vessel coronary artery bypass graft 10 years ago. She had a cerebrovascular accident 2 years ago that left her with decreased right-sided sensory and motor function. She takes multiple cardiac medications. Examination shows morbid obesity. Her uterus is noted to have mild to moderate prolapse. Which of the following is the most appropriate next step in management?

1. Oral contraceptive pill
2. Hormone replacement therapy
3. Trial of pessary
4. Vaginal hysterectomy
5. Abdominal hysterectomy

INCORRECT

The correct answer is 3.

This patient has uterine prolapse, which is believed to result from damage to pelvic fascia, muscles, and ligaments during childbirth. Prolapse is more common among Caucasian woman than among other ethnic groups. Patients with uterine prolapse will often complain of a bulge from the vagina or of pelvic pain or pressure. Some patients also may have urinary or sexual complaints. On examination, the uterus will be found to be prolapsing toward or through the introitus. The management is either with a pessary (a Lucite or rubber structure used to support pelvic organs) or with surgery (hysterectomy). This patient, with her numerous medical problems, represents a significant surgical and anesthesia risk. Therefore, a nonsurgical approach (the pessary) should be attempted first.
(Choices 1 & 2) The oral contraceptive pill (OCP) or hormone replacement therapy (HRT) would not be appropriate treatment. Uterine prolapse is essentially a mechanical problem that requires a mechanical solution (i.e., pessary or surgery). The OCP or HRT would not address this problem. Also, there is accumulating evidence that shows that hormones increase the risk of thrombosis. This patient, with her history of coronary artery disease and recent stroke, would not represent a good candidate for hormone therapy.

(Choices 4 & 5) Vaginal hysterectomy or abdominal hysterectomy would not be the most appropriate next step in the management of this patient. Uterine prolapse can be treated with a pessary or with surgery. This patient has numerous medical problems, placing her at increased surgical risk; therefore, the pessary should be attempted first.

165. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old primigravid patient comes to the physician because of vaginal bleeding. Her last menstrual-s, period was 8 weeks ago. Since then, she has had no problems with the early pregnancy except for some nausea and vomiting. She is afebrile, and her vital signs-e, are stable. Pelvic examination shows a small amount ot brown blood in the vagina. The cervical os is closed. The uterus is 8-week size and nontender. There are no adnexal masses or tenderness. Pelvic ultrasound shows an 8-week fetus with a heart rate of 158/min and no abnormalities. The patient wants to know what the
prognosis is for her pregnancy. Which of the following is the correct response?

1. There is no risk of miscarriage
2. There is approximately a 10% risk of miscarriage
3. There is an approximately 50% risk of miscarriage;
4. There is an approximately 75% risk of miscarriage
5. Miscarriage is almost certain

INCORRECT

The correct answer is 2.

Approximately 20 to 25% of women will have first-trimester bleeding, and the chief concern is with ectopic pregnancy and spontaneous abortion. Of those women, approximately 50% will go on to have a spontaneous abortion (miscarriage). However, once fetal cardiac activity is seen, the risk of spontaneous abortion is approximately 10%. This patient has fetal cardiac activity and a normal examination and ultrasound. Therefore, she should be counseled that her risk of miscarriage is approximately 10%.

(Choice 1) To state that there is no risk of miscarriage would not be correct. This is never appropriate counseling because in any pregnancy there is a risk of miscarriage, no matter how normal or healthy the pregnancy may seem.

(Choices 3 & 4) To state that there is an approximately 50% or 75% risk of miscarriage would be incorrect. As stated above, the risk of miscarriage with vaginal bleeding in the first trimester when fetal cardiac activity is present is approximately 10%.

(Choice 5) To state that miscarriage is almost certain would not be correct.

166. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman comes to the physician for birth control counseling. She is sexually active and has been using condoms, but would like to switch to a different method. She has no medical problems. She had a left ovarian cystectomy 4 years ago. She takes no medications and has no allergies to medications. Physical examination, including pelvic examination, is normal. After a thorough discussion of the birth control options, the patient wishes to start on depot medroxyprogesterone acetate (DMPA). Which of the following is this patient most likely to experience while on this form of contraception?

1. Elevated circulating estrogen levels
2. Increased bone density
3. Increased HDL cholesterol
4. Menstrual abnormalities
5. Pregnancy

INCORRECT

The correct answer is 4.

Depot medroxyprogesterone acetate (DMPA) is an injectable contraceptive that is given intramuscularly every 3 months. It is a synthetic progestin that provides contraception by inhibiting ovulation and creating an inhospitable environment in the female genital tract for conception (e.g., thickened cervical mucus). The most common side effects are menstrual abnormalities. Irregular bleeding patterns, including spotting, occur frequently in the first few months of use. Amenorrhea is also frequent and increases in incidence as the duration of therapy increases. Another major side effect of DMPA is weight gain, with the average user experiencing gains of approximately 3-5 pounds. Other adverse effects may include headache, decreased libido, tiredness, depression, and hair loss. Women should be counseled regarding these effects prior to starting this contraception.

(Choice 1) DMPA does not cause an elevation of circulating estrogen levels. On the contrary, DMPA has been shown to cause decreased circulating estrogen levels. These decreased levels are believed to result from the central hypothalamic suppression that DMPA causes, which decreases ovarian activation and estrogen production.

(Choice 2) DMPA does not cause increased bone density. In fact, DMPA has been shown to lead to decreased bone• density over time, likely secondary to the decreased estrogen levels. However, this decreased bone density on DMPA has not yet been proven to lead to an increased rate of fractures.

(Choice 3) DMPA does not cause increased HDL cholesterol, but rather has been shown to decrease HDL (or “healthy”) cholesterol levels.
(Choice 5) DMPA is less likely to lead to pregnancy compared with many other forms of contraception. Administration of 150 mg every 3 months has been shown to prevent pregnancy very effectively, with pregnancy rates approximately 0.3 per 100 women per year.

167. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman, gravid a 2, para 1 , at 16 weeks’ gestation comes to you for a routine prenatal visit. She has had mild constipation. She has had no nausea, vomiting, fever, burning urination, back pain, or other complaints. She has no history of urinary tract infections. She takes iron and folic acid supplements. She does not use tobacco, alcohol, or drugs. She is afebrile; her blood pressure is 124/7 4 mm Hg and pulse is 78/min. Examination shows a uterus consistent in size with a 16-week gestation. Physical examination shows no abnormalities. Urinalysis is within normal limits. A routine clean-catch urine culture grows greater than 100,000 colonies/ml of Escherichia coli. Which of the following is the most appropriate next step in management?

1. Nitrofurantoin for 7 days
2. Ciprofloxacin for 3 days
3. Reassurance and routine follow-up
4. Trimethoprim and sulfamethoxazole for 7 days
5. Obtain renal ultrasonogram

INCORRECT
The correct answer is 1.
This patient has asymptomatic bacteriuria of pregnancy. Left untreated, asymptomatic bacteriuria can lead to cystitis, acute pyelonephritis, preterm birth and increased perinatal mortality. Therefore, all pregnant patients with asymptomatic bacteriuria (>100,000 organisms/ml) should be treated with antibiotics. Accepted regimens include nitrofurantoin, amoxicillin, or a first generation cephalosporin for 7 days. Shorter courses (3 days) are sufficient for treatment of uncomplicated cystitis in non-pregnant patients. However, 3 days of antibiotics are ineffective at eradicating asymptomatic bacteriuria of pregnancy.
(Choice 2) Ciprofloxacin, a fluoroquinolone, is associated with cartilage abnormalities in the fetus and should not be prescribed to pregnant patients. Furthermore, 3 days is an insufficient length of therapy for this condition.

(Choice 3) Because of the risks to the mother (cystitis, pyelonephritis) and infant (low birth weight and increased perinatal mortality) reassurance and routine follow-up are inappropriate in cases of asymptomatic bacteriuria of pregnancy.
(Choice 4) A 3-day course of TMP-SMX is a common choice for management of uncomplicated cystitis. However, trimethoprim should be avoided during pregnancy because it is a folate antagonist.
(Choice 5) Asymptomatic bacteriuria of pregnancy does not require an ultrasonogram.

168. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-oldwoman comes to the physician because of irregular vaginal bleeding. She has asthma and has never had surgery. She takes albuterol for her asthma and has been taking the oral contraceptive pill for 2 years. She has no allergies to medications. On examination she is found to have a vaginal lesion, which is biopsied. The biopsy shows clear cell adenocarcinoma of the vagina. This patient's malignancy is most likely associated with which of the following types of exposure?

1. Current albuterol use
2. Current oral contraceptive pill use
3. In utero aspirin exposure
4. In utero Coumadin exposure
5. In utero diethylstilbestrol (DES) exposure

INCORRECT
The correct answer is 5.
Clear cell adenocarcinoma is a rare malignancy that is associated with in utero exposure to diethylstilbestrol (DES). For approximately 25 years, up until the early 1970s, pregnant women were treated with DES to prevent abortion, preeclampsia, diabetes, and preterm labor. However, it was discovered?" that in utero exposure to this drug leads to an increased.ss, risk of clear cell adenocarcinoma of the vagina and cervix, as well as genital tract anomalies, in the daughters of DES-ingesting mothers.
(Choice 1) has no known association with clear cell adenocarcinoma of the vagina.
(Choice 2) has no known association with dear cell adenocarcinoma of the vagina. OCP use is known to decrease a woman's risk of ovarian and endometrial cancer. There is conflicting evidence regarding the effect of OCP use on breast and cervical cancer.

(Choice 3) can cause constriction of the ductus arteriosus in the fetus. Pregnant-es, women who take aspirin also may have delayed onset of labor, prolonged labor, and an increased risk of a prolonged pregnancy. However, there is no known association between aspirin and dear cell adenocarcinoma.
(Choice 4) is associated with chondrodysplasia punctata in about 5 to 10% of exposed pregnancies. Chondrodysplasia punctata is a syndrome characterized by nasal hypoplasia, bone and eye abnormalities, and mental retardation. In utero coumadin exposure is not associated with dear cell adenocarcinoma.

169. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old woman, gravid a 3, para 2, at 35 weeks gestation is rushed to the emergency department because of vaginal bleeding. She was sleeping when she first noticed the bleeding. She has had no uterine contractions. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 14th week of gestation showed an intrauterine gestation consistent with dates and showed no abnormalities. Her previous pregnancies were uncomplicated. Her temperature is 37.0 °C (98.7 °F), blood pressure is 90/60 mm Hg, pulse is 116/min and respirations are 16/min. Physical examination shows cold extremities and bright red vaginal bleeding. Which of the following is the most appropriate next step in management?

1. Emergency transvaginal ultrasonogram
2. Obtain blood for PT/INR and PTT
3. Obtain venous access with two large bore needles
4. Immediate vaginal examination
5. Immediate cesarean section

INCORRECT

The correct answer is 3.

The patient presents with a severe antepartum hemorrhage that has caused hypotension, tachycardia and physical signs of poor peripheral perfusion. She is at risk of developing hypovolemic shock. Hemodynamic resuscitation must be promptly initiated before starting any measure to diagnose the source of blood loss. The most common causes of antepartum hemorrhage are placenta previa and abruptio placenta.
(Choice 1) Emergency ultrasound is an essential step in diagnosing the cause of antepartum bleeding as pelvic examination carries the risk of exacerbating the bleeding before placenta previa is ruled out, but hemodynamic resuscitation must be performed first.

(Choice 2) Coagulation disorders are seldom responsible for antepartum hemorrhage, but an assessment of the patient's coagulation profile is necessary in such a situation after emergent fluid resuscitation has been accomplished.
(Choice 4) Vaginal examination is contraindicated in the case of antepartum hemorrhage because it can aggravate the bleeding from placenta previa. It can be safely done following an ultrasonogram that excludes placenta previa.
(Choice 5) Cesarean section may be needed if the patient continues to be unstable; however, hemodynamic stability should be attained first.

170. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old nulligravid woman at 39 weeks' gestation comes to the labor and delivery ward because of contractions. Her prenatal course was significant for anemia in the third trimester. Examination shows the cervix to be 6 cm dilated and the fetus in footling breech position. External fetal monitoring shows the fetal heart rate to be in the l 40s and reactive. A cesarean section is performed. Which of the following risk factors places this patient at greatest risk for developing post partum endometritis?

1. Anemia
2. Cesarean section
3. External fetal monitoring
4. Intact membranes
5. Socioeconomic status

INCORRECT

The correct answer is 2.

Cesarean section is by far the most significant risk factor for the development of postpartum endometritis. Patients undergoing cesarean section have several times the risk for developing endometritis compared with patients having a vaginal delivery. Other patients who have an increased risk are those with prolonged rupture of membranes, long labors, multiple vaginal examinations, internal fetal monitoring, and low socioeconomic status. The use of prophylactic antibiotics (cefazolin, clindamycin-gentamicin, or metronidazole) at the time of cord clamping significantly decreases the risk of developing endometritis.
(Choice 1) Although often cited as a risk factor for the development of endometritis, has not been proven to be associated with it. If there is any increased risk, it is significantly less than that posed by cesarean section.

(Choice 3) does not place the patient at risk for developing endometritis. Internal fetal monitoring with a scalp electrode does increase the risk.
(Choice 4) do not place the patient at risk for developing endometritis. Having ruptured membranes for an extended period of time is what places the patient at risk for endometritis, especially when cesarean section is the eventual mode of delivery.
(Choice 5) has been shown to be associated with the development of endometritis. Patients of low socioeconomic status are more likely to develop postpartum endometritis compared with their counterparts of higher socioeconomic status. However, cesarean section would be the factor that places this patient at greatest risk compared with socioeconomic status.

171. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old female comes to the physician's office for evaluation of infertility. She has not been able to conceive for 12 months despite frequent intercourse. Her menses started at age 12 and have always been irregular. She uses over the counter acne medications. She is also obese and has been unsuccessful with weight loss. Physical examination shows an obese woman with sparse hair over the upper lip. There is no galactorrhea, thyromegaly or clitoromegaly. Which of the following is the most appropriate therapy for this patient's infertility?

1. Progesterone supplement
2. Clomiphene citrate
3. Dexamethasone
4. Dopamine agonist
5. In vitro fertilization

INCORRECT

The correct answer is 2.

The patient described is most likely suffering from polycystic ovary syndrome (PCOS, Stein-Leventhal syndrome), which is characterized by anovulation, signs of androgen excess and ovarian cysts. Patients with PCOS are often infertile or subfertile because their menstrual cycles are frequently anovulatory. The exact reason for anovulation in these patients has not been completely elucidated, but it is caused in part by imbalances LH and FSH production and insulin resistance. Because the ovaries are functional in patients with PCOS, ovulation can be induced by treatment with clomiphene citrate (CC). CC is an estrogen analog that improves GnRH release and FSH release thereby improving the chances of ovulation. Patients with PCOS are also treated with metformin, which has been independently shown to improve ovulation.

(Choice 1) Progesterone supplementation is recommended for patients with luteal phase defect.
(Choice 3) Dexamethasone administration has no role in the treatment of PCOS. Chronic steroid therapy would only worsen the baseline insulin resistance observed in this condition.
(Choice 4) Dopamine agonists are a treatment used for hyperprolactinemia, a condition that causes anovulation and galactorrhea.
(Choice 5) In vitro fertilization may be appropriate after other less costly avenues for fertility treatment have been exhausted.

172. Question **1 points**

Category: Obstetrics & Gynaecology

A seven-year-old girl is brought to the physician's office because of a sudden onset of growth spurt, pubic hair development, and breast enlargement. Her family history is not significant. She has no other medical problems. On examination, there is no hirsutism or acne. Her weight is 70th percentile and her height is 98th percentile. Examination showed a pelvic mass. Pelvic ultrasonogram showed a right ovarian mass. Initial evaluation showed elevated estrogen levels. Which of the following is the most likely diagnosis?

1. Dysgerminoma
2. Sertoli-Leydig cell tumor
3. Granulosa cell tumor
4. Mature teratoma
5. Serous cystadenoma

INCORRECT

The correct answer is 3.

Granulosa cell tumors are fairly common and represent 10% of all solid malignant ovarian tumors. They can occur at any age, but usually follow a bimodal age distribution. When occurring before puberty, precocious puberty is often the presenting feature. The clinical features depend upon the estrogenic activity of the tumor. The tumor produces excessive amounts of estrogen and causes isosexual precocious puberty. Individuals develop secondary sexual characteristics, hypertrophy of breasts and external genitalia, pubic hair growth, and hyperplasia of the uterus. Usually, removal of the tumor causes regression of all these symptoms. When this tumor occurs in postmenopausal women, it is manifested as postmenopausal bleeding, and the uterus shows myohyperplasia. Patients can develop estrogenic features such as hypertrophy of the breasts and absence of postmenopausal signs (i.e. absence of vaginal atrophy).

(Choice 1) Dysgerminomas also arise in younger women or in children, with an average incidence at the age of 20. They are usually unilateral and occasionally undergo torsion. The tumor is neutral and does not secrete either male or female sex hormones.
(Choice 2) Sertoli-Leydig cell tumors produce androgens and cause defeminization followed by masculinization. Women in the childbearing age may complain of an altered body contour, flattening of the breasts, and scanty, irregular menstruation, ultimately ending in amenorrhea. Patients may develop hirsutism, coarsening of features, and enlargement of the clitoris.
(Choice 4) Mature teratomas are also called dermoid cysts. Mature teratomas are often benign and do not produce either estrogens or androgens.
(Choice 5) Serous cystadenomas are the most common cystic ovarian neoplasms, accounting for about 30% of all ovarian tumors. About 25% of all these are malignant, and about half of the cases are bilateral. They usually do not produce estrogen or androgen. Ovarian mass and abdominal pain is the presenting features.

173. Question **1 points**

Category: Obstetrics & Gynaecology

A 16-year-old female comes to the emergency department because of heavy vaginal bleeding. She has no pain. Since menarche, menses have been irregular. She has a steady boyfriend and uses condoms for contraception. She has no other medical problems. She does not use alcohol, tobacco, or drugs. Her temperature is 37 °C (98.6 °F), blood pressure is 110/60 mm Hg, pulse is 90/min, and respirations are 16/min. Physical examination shows active vaginal bleeding. Pregnancy test is negative. Coagulation studies are within normal limits. Ultrasound shows no abnormalities. Her hemoglobin is 9 .8 g/dl and hematocrit is 29%. Which of the following is the most appropriate next step in management?

1. Emergency dilatation and curettage
2. Packed red blood cell transfusion
3. High dose estrogen therapy
4. Hysteroscopy
5. High dose GnRH agonists

INCORRECT
The correct answer is 3.
Dysfunctional Uterine Bleeding (DUB) refers to heavy vaginal bleeding that occurs in the absence of structural or organic disease. DUB is most often the result of anovulation. This patient's pregnancy test is negative and her physical exam and ultrasound are normal, suggesting a diagnosis of DUB. In adolescent females with DUB, the proper treatment

depends on the severity of bleeding. If DUB is mild, then iron supplementation is sufficient. If DUB is moderate and there is no active bleeding, then progestin should be added. If DUB is moderate with active bleeding, or if DUB is severe, then estrogen is indicated **(Choice 3)**.
(Choices 1 & 2) Emergency dilation and curettage to control bleeding and packed red blood cell transfusion to replete hemoglobin would be indicated if this patient were hemodynamically unstable secondary to vaginal bleeding. However, these steps are not indicated given her hemoglobin of > 9 and the absence of symptoms secondary to anemia.
(Choice 4) Hysteroscopy would be indicated for removal of endometrial polyps or uterine fibroids. However, an ultrasound showing no abnormalities suggests that this girl is experiencing DUB, which does not require hysteroscopy.
(Choice 5) GnRH agonists may be used to suppress symptoms from endometriosis and uterine fibroids. However, in active DUB, high dose estrogen therapy is the appropriate treatment.

174. Question **1 points**

Category: Obstetrics & Gynaecology

A 30-year-old obese white female comes to the physician with a six months history of oligomenorrhea. She never had this problem before. She has no galactorrhea. She has gained significant weight over the past two years despite a regular exercise program. She has also experienced hair loss during this time. She has had regular Pap smears since the age of 20; pap smears have shown no abnormalities. She takes no medications. She does not use tobacco, alcohol, or drugs. Her mother has a history of endometrial carcinoma and her grandmother had a history of ovarian carcinoma. Physical examination shows male pattern baldness. Abdominal and pelvic examination shows no abnormalities. A urine pregnancy test is negative. Serum prolactin level and thyroid function tests are normal. Which of the following is the most appropriate next step in management?

1. Screening mammogram
2. Oral glucose tolerance test
3. CA-125 levels, annually
4. Diagnostic laparoscopy
5. Iron studies

INCORRECT
The correct answer is 2.
This patient has a history and clinical findings which are typical of polycystic ovarian syndrome (PCOS). This condition should be suspected in any patient who has menstrual

irregularities and evidence of hyperandrogenism. This includes clinical (i.e. hirsutism, acne, or male pattern baldness) and/or biochemical (i.e. high serum androgen concentrations) hyperandrogenism. The presence of these abnormalities establishes the diagnosis. There is no need to visualize the cysts with ultrasonography to establish a diagnosis. 50% of PCOD patients are found to be obese. These patients are also at risk of developing insulin resistance and type II diabetes.
Standard 2-hour oral glucose tolerance test (OGTI) identifies most patients with impaired glucose tolerance and early type 2 diabetes better than fasting glucose alone.
(Choice 1) PCOS patients are not at increased risk for breast cancer.
(Choice 3) CA-125 levels are used to monitor therapy of ovarian cancer. Patients with PCOS are not at increased risk for ovarian cancer.
(Choice 4) Laparoscopy is not required to make the diagnosis of PCOS.
(Choice 5) Iron deficiency could cause diffuse hair loss, but does not explain oligomenorrhea and weight gain.

175. Question **1 points**

Category: Obstetrics & Gynaecology

A 35-year-old Australian woman presents to a physician complaining of irregular menstrual periods. She had her first menses at age 15 and states that her periods come irregularly every 2 to 6 months. She has been in a monogamous relationship with her husband for 15 years; for 10 years they have been trying unsuccessfully to conceive. She gets yearly Pap smears, which have been normal. Her height is 5 feet 2 inches (157.5 cm), and her weight is 200 pounds (90.9 kg). Her temperature is 37.0 C (98.6 F), blood pressure is 118/78 mm Hg, pulse is 80/min, and respirations are 14/min. She has acne, as well as excess hair, on her face and between her breasts. Her abdomen is obese. Examination is otherwise within normal limits. This patient is at greatest risk for developing which of the following diseases?

1. ○ Cervical cancer
2. ○ Endometrial cancer
3. ○ Lung cancer
4. ○ Osteoporosis
5. ○ Ovarian cancer

INCORRECT
The correct answer is 2.
The patient above has the constellation of findings on history and physical that are most consistent with polycystic ovarian syndrome (PCOS). Patients with PCOS typically have

infertility, oligomenorrhea, hirsutism, and obesity. These women characteristically have elevated serum androgen levels, high LH to FSH ratios, and bilaterally enlarged ovaries, often with multiple cysts (which appear as “strings of pearls” on ultrasound). The oligomenorrhea that characterizes this syndrome places these women at increased risk for developing endometrial cancer. In women who ovulate each month, the second half of the menstrual cycle is characterized by production of progesterone from the ovary. This progesterone has a protective effect on the endometrium, preventing the development of hyperplasia and carcinoma. Women with PCOS, however, do not ovulate regularly and therefore do not make this “protective” progesterone each cycle. The prolonged exposure to unopposed estrogen, that is, estrogen that is not opposed by progesterone, places these women at increased risk of developing endometrial cancer.
(Choice 1) This patient would not be considered at increased risk for developing cervical cancer. The risk factors for cervical cancer are multiple sexual partners, early age at first intercourse, history of sexually transmitted diseases, HIV, genital warts, cigarette smoking, and a history of cervical dysplasia. This patient is in a monogamous relationship and has had normal pap smears for many years.
(Choice 3) There is no known association between PCOS and lung cancer. Women with PCOS are at increased risk of developing type 2 diabetes and dyslipidemia, however.
(Choice 4) is a major health risk for many women. However, this patient has characteristics that make osteoporosis less of a risk for her. Osteoporosis is less common among black women than among whites or Asians. It is also less common among obese women than among thin or small framed women. Finally, osteoporosis is not considered to be a characteristic of PCOS.
(Choice 5) is decreased in oligo ovulatory woman such as PCOS patients. Endometrial cancer is the cancer that women with PCOS are at the greatest risk of developing.

176. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old woman at 39 weeks gestation is admitted to the hospital. She has regular uterine contractions. Her blood pressure is 120/70mmHg, pulse is 80/min and respirations are 18/min. Fetal heart monitoring is placed and shows a baseline rate of 130 beats/min, without any associated abnormalities. Pelvic examination shows the cervix is 50% effaced and 3cm dilated. Amniotomy is performed and a bloody show is noted. Immediately after the rupture of membranes, the baseline fetal heart rate increases to 160 beats/min and then drops to 70 beats/min. As labor progresses, repetitive late
decelerations are noted, as well as an increase in vaginal bleeding. Repeat vital signs of the patient shows a blood pressure of 130/70mmHg, pulse of 80/min and respirations of 18/min. Which of the following is the most likely cause of the current condition?

1. ○ Premature separation of the placenta

2. Abnormal placental implantation
3. Abnormal umbilical vessels
4. Excessive amniotic fluid
5. Tear in uterine musculature

INCORRECT

The correct answer is 3.

This is a typical presentation of a ruptured fetal umbilical vessel: an antepartum hemorrhage with very characteristic fetal heart changes progressing from tachycardia to bradycardia to a sinusoidal pattern. If fetal bleeding is suspected, an Apt test – which differentiates maternal from fetal blood – can be performed to confirm the diagnosis. Vasa previa is a rare condition in which the fetal blood vessels traverse the fetal membranes across the lower segment of the uterus between the baby and the internal cervical os (velamentous cord insertion). These vessels are vulnerable to tearing during natural or artificial rupture of the membranes. The condition carries a high fetal mortality rate (75%) due to fetal exsanguination. When this condition is diagnosed, the treatment is an immediate caesarian section delivery ("crash C-section").

(Choice 1) Abruptio placenta is a premature placental separation initiated by hemorrhage in the decidua basalis. It typically presents with dark red antepartum hemorrhage along with abdominal pain, uterine tenderness and increased uterine tone. The bleeding is of maternal origin.

(Choice 2) Placenta previa is an abnormal insertion in the placenta on the lower segment of the uterus near or over the cervical os. It manifests as painless antepartum hemorrhage, and the bleeding is maternal in origin.

(Choice 4) Excessive amniotic fluid (hydramnios, polyhydramnios) causes symptoms in the mother as a result of compression on the lungs, abdominal organs and vasculature. Difficulty breathing and lower extremity edema are common. Placental abruption and postpartum hemorrhage due to uterine atony are associated with hydramnios.

(Choice 5) Uterine rupture presents with intense abdominal pain associated with vaginal bleeding that can range from spotting to severe hemorrhage. The bleeding is maternal in origin. Regression of the fetal presenting parts and palpability of fetal limbs on abdominal exam is typical.

177. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman presents for a routine prenatal visit. She is 24 weeks pregnant by last menstrual period and ultrasound. She does not have any medical problems and does not take any medications. She does not use tobacco, alcohol or illicit drugs. She works as a financial advisor in

a local firm. She and her husband have been monogamous since getting married 5 years ago. Vital signs are normal. Physical examination shows no abnormalities. At the end of the visit she tells you that her newborn niece recently had a group B streptococcal infection and she is afraid that her child might develop the same. Which of the following is the most appropriate response?

1. Your niece would not have developed the infection if the obstetrician had followed the standard of care.
2. You do not have any risk factors of harboring or transmitting that infection to your child.
3. Only a small percentage of unfortunate children develop this infection. Most children will be fine.
4. I understand your concern. Let me take vaginal and rectal swabs for culture now.
5. I understand your concern. I will test for the infection two weeks prior to the expected date of delivery.

INCORRECT

The correct answer is 5.

Streptococcus agalactiae or Group B streptococcus (GBS) is an important cause of infections in pregnant women, neonates and young infants. It is a common colonizing organism in the human gastrointestinal and genital tracts and maternal colonization increases the risk of offspring developing GBS infections following birth. To decrease this risk, all pregnant women are screened for colonization with vaginal and rectal swabs at 35-37 weeks gestation. Women colonized with GBS receive prophylactic antibiotics (penicillin or ampicillin) at the time of delivery. Women who have had GBS bacteriuria during pregnancy or who have previously delivered a child that developed an early-onset GBS infection are automatically given prophylactic antibiotics regardless of the results of a rectovaginal culture.

(Choice 1) The obstetrician in question may have followed the standard of care. Prophylactic screening and treatment decreases the risk of GBS infections but does not eliminate the risk completely.

(Choice 2) At this stage of pregnancy, one cannot predict a woman's risk of transmitting GBS to her infant during delivery.

(Choice 3) While only a small percentage of children develop GBS infection, the more appropriate response is to describe to the patient what you plan to do to prevent this infection in her child.

(Choice 4) Cultures at this stage of pregnancy are irrelevant as the infection is typically transmitter during the birthing process.

178. Question **1 points**

Category: Obstetrics & Gynaecology

A 21-year-old woman comes to the physician because of painful menstrual periods. Menarche was at age 13. During her first several cycles, her cramping was bearable, but since then it has grown increasingly worse. Her episodes are now characterized by lower abdominal pain that starts several hours prior to the onset of menses, lasts about 2 days, and then resolves completely. She has diarrhea and fatigue during this time. A year ago, a physician had her try ibuprofen, which helped significantly. Physical examination is unremarkable, and pelvic examination is normal. This patient's painful menstrual periods are related to which of the following substances?

1. Endotoxin
2. Nonsteroidal anti-inflammatory drugs (NSAIDs)
3. Prolactin
4. Prostaglandins
5. Thyroid stimulating hormone (TSH)

INCORRECT

The correct answer is 4.

This patient most likely has primary dysmenorrhea, which is painful menstruation without any demonstrable pelvic disease. The relationship between prostaglandins and primary dysmenorrhea is now reasonably well established. Prostaglandin $F_{2\alpha}$ and prostaglandin E_2 are released from endometrial cells, as these cells undergo lysis at the time of menstruation. These prostaglandins then induce uterine smooth muscle contractions that are the muse of the cramping pain of primary dysmenorrhea. Prostaglandins can cause smooth muscle contraction in other tissues as well, such as bowel-which is how dysmenorrhea can be associated with diarrhea. The treatment for primary dysmenorrhea is with nonsteroidal anti-inflammatory drugs (NSAIDs) or oral contraceptive pills (OCPs).

(Choice 1) is a lipopolysaccharide that is released when the cell wall of gram-negative bacteria is lysed. It is implicated in the pathophysiology of septic shock. There is no known association between endotoxin and primary dysmenorrhea.

(Choice 2) Nonsteroidal anti-inflammatory drugs (NSAIDs) are a first-line treatment for primary dysmenorrhea. As described above, prostaglandins are believed to play a central role in the pathophysiology of primary dysmenorrhea. NSAIDs block the formation of prostaglandins and therefore help to relieve the pain.

(Choice 3) is a protein hormone that is synthesized and secreted by lactotrophs of the anterior pituitary. Initiating and maintaining lactation is the primary function of prolactin, but there is a significant amount of evidence showing that prolactin plays a role in numerous processes of the reproductive system and other systems. There is no proven link between prolactin and the pathophysiology of primary dysmenorrhea.

(Choice 5) is produced by thyrotrophs of the anterior pituitary. TSH acts on the thyroid gland itself, regulating thyroid iodine metabolism and the release of thyroid hormones. There has been no demonstrated link between TSH and primary dysmenorrhea.

179. Question **1 points**

Category: Obstetrics & Gynaecology

A 30-year-oldwoman with a genetic disorder characterized by a deficiency of phenylalanine hydroxylase is planning a first pregnancy. Her physician explains the increased risk of mental retardation, as well congenital heart disease, in the infant. Which of the following should also be recommended?

1. Low phenylalanine diet should be initiated before conception
2. Dietary supplementation with glycine is recommended
3. Dietary supplementation with L-carnitine is recommended
4. There is no need for diet control if phenylalanine levels are mildly elevated
5. Vitamin B_6 should be administered to the neonate on delivery

INCORRECT

The correct answer is 1.

The adverse effects of maternal phenylketonuria (PKU) correlate with the degree of hyperphenylalaninemia. Lowering the maternal phenylalanine level into the normal range by dietary means before conception affords optimal protection to the infant.

(Choice 2) is used as a treatment option in patients with isovaleric acidemia. This is an organic acid disorder resulting from deficiency of isovaleryl CoA dehydrogenase, which is an enzyme involved in the oxidative decarboxylation of leucine. Severe neonatal ketoacidosis may occur.

(Choice 3) Isovaleric acidemia may also occur because of a secondary depletion of L-carnitine, preventing conjugation of isovaleric acid and elimination of the water-soluble isovaleryl carnitine in the urine. Dietary supplementation with L-carnitine is recommended.

(Choice 4) Maintaining a normal level of phenylalanine is imperative to avoid sequelae of PKU, including mental retardation. Control of phenylalanine levels have been shown to reduce adverse fetal outcomes.

(Choice 5) is used in the partial treatment of homocystinuria. This occurs because of an autosomal recessive inherited deficiency of the enzyme cystathionine beta-synthase leading to the accumulation of homocystine. Vitamin B6 is a cofactor of this enzyme.

180. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman comes to the physician because of ‘warts” on her external genitalia. She first noted their appearance approximately 9 months ago. Since that time she states that they have become numerous. She has no medical problems. Examination shows multiple, small, raised lesions and a few larger cauliflower-like lesions on her vulva and the posterior fourchette. Rapid plasma reagin (RPR) is negative. Which of the following is the most likely diagnosis?

1. Condylomata acuminata
2. Condylomata lata
3. Herpes genitalis
4. Molluscum contagiosum
5. Syphilis

INCORRECT

The correct answer is 1.

Condyloma acuminata is caused by the human papillomavirus. It is believed to be a sexually transmitted disease that is transmitted when viral particles come into contact with the female genitalia or surrounding skin. The lesions tend to occur at the sites most affected by coitus, namely the posterior fourchette and lateral vulva. The smaller lesions appear to be warts, whereas the larger lesions are verrucous or cauliflower-like. Diagnosis is based on the appearance of the lesion or by biopsy. Treatment is through local destruction with laser, cryotherapy, trichloroacetic acid, podophyllin, excision, or immunomodulators, such as imiquimod

(Choice 2) is a manifestation of secondary syphilis. These lesions are elevated areas and moist grayish patches that occasionally cause ulceration. This patient has a negative RPR; therefore, her lesions do not represent condylomata lata.

(Choice 3) is characterized by painful vesicles and ulcers. This patient has raised warts and verrucous lesions.

(Choice 4) is characterized by numerous, small, dome-shaped papules with a smooth surface and, sometimes, an umbilicated center. These lesions are occasionally pruritic. Molluscum contagiosum usually occurs in patients who are immuno suppressed secondary to HN or to immunosuppressive medications.

(Choice 5) can present with many different manifestations. Primary syphilis is characterized by a chancre, which is a painless ulcer. Secondary syphilis may be characterized by condylomata lata as described above. However, this patient has a negative RPR, which makes syphilis very unlikely.

181. Question **1 points**

Category: Obstetrics & Gynaecology

An 18-year-old woman, gravida 1, para 0, underwent spontaneous vaginal delivery 10 minutes ago. She gave birth to a 4,030 g (8 lb 14 oz) male neonate with 1and 5-minute Apgar scores of 8 and 9. Her prenatal course was uncomplicated, and labor began spontaneously. Pain relief in labor was achieved by continuous epidural analgesia. Monitoring of the fetal heart rate and uterine contractions was by external cardiotocography. The second stage of labor lasted 90 minutes. She did not receive an episiotomy. You note only minimal first-degree vaginal lacerations. The umbilical cord begins to lengthen, and you observe a gush of blood from the vagina. Which of the following is the most likely cause of these events?

1. Rapidly falling estrogen levels in maternal circulation
2. Avulsion of anchoring villi by contracting myometrium
3. Falling levels of circulating, placentally produced prolactin
4. A gradual decrease in PCO_2 in the umbilical vein
5. A progesterone-mediated decrease in gap junctions

INCORRECT

The correct answer is 2.

This woman is in the third stage of labor, which starts with delivery of the infant and ends with delivery of the placenta. The upper limit of normal for duration of the third stage of labor is 30 minutes. The factor that contributes most to the mechanism of the third stage of labor is avulsion of anchoring villi by contracting myometrium.

It is true that the estrogen level falls after delivery of the placenta, providing the hormonal stimulus for breast engorgement, but this decrease does not contribute to the third stage of labor **(Choice 1)**. The levels of prolactin and umbilical vein PCO2 are not involved in placental separation **(choices 3 & 4)** . A progesterone-mediated decrease in gap junctions is not relevant to the third stage of labor or placental separation **(Choice 5)**.

182. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old woman, gravida 2, para 1, presents for a routine prenatal visit. She is 42 and 1/2 weeks' gestation by dates, 170 cm (67 in) tall, and weighs 67 kg (147 lb). During her pregnancy, she has had a total weight gain of 19 kg (43 lb). This was a planned pregnancy that was complicated in the first trimester by severe nausea and vomiting that ended by 15 weeks' gestation. She required intravenous hydration and antiemetic medications. She has a positive history of chronic hypertension treated with methyldopa. She has had five sonograms performed during her pregnancy, at 10, 20, 25, 30, and 40 weeks' gestation. Which of the following five sonograms will have provided the most accurate estimate of the duration of pregnancy?

1. 10 weeks
2. 20 weeks
3. 25 weeks
4. 30 weeks
5. 40 weeks

INCORRECT

The correct answer is 1.

Determination of gestational age is of crucial importance. The last menstrual period, obtained from patient history, albeit subjective, can be very useful in identifying the number of pregnancy weeks, if it is reliable. An objective parameter for estimating the duration of pregnancy is ultrasonic measurement of fetal size. The earlier in pregnancy that the sonogram is performed, the more accurate it is, because the proportionate change in fetal growth from week to week is greater earlier in the pregnancy than it is later. As pregnancy progresses, the accuracy of gestational age estimation from sonographic measurement of fetal size is progressively less.

(Choices 2,3,4 & 5) Therefore, sonograms performed at 20, 25, 30, and 40 weeks' gestation would not be as precise as a sonogram performed at 10 weeks' gestation.

183. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old woman, gravid a 1, para 0, at 36 weeks gestation comes to the physician because of diffuse headache, blurry vision and epigastric pain. She has no previous history of hypertension, renal disease or neurologic disease. Her mother has a history of migraine headaches. Her temperature is 37.2 °C (98.9 °F), blood pressure is 200/126 mmHg and pulse is 80/min. Physical examination shows bilateral lower extremity edema. Deep tendon reflexes are exaggerated. Laboratory studies show:

Blood urea nitrogen (BUN): 23 mg/dl
Serum creatinine: 1.6 mg/dl
Blood glucose: 98 mg/dl

Urinalysis

Protein: 4+
Blood: negative
Glucose: negative
WBC: 1-2/hpf
RBC: 1-2/hpf
Casts: none

Fetal heart tones are heard by Doppler. While evaluating her, she suddenly develops generalized tonic-clonic convulsions. Which of the following is the most appropriate next step in management?

1. Intravenous phenytoin load
2. Intravenous magnesium sulfate
3. Immediate cesarean section
4. Immediate induction of labor for vaginal delivery
5. Intravenous lorazepam followed by phenytoin load

INCORRECT

The correct answer is 2.

This patient was admitted to the hospital because she had severe preeclampsia that progressed to eclampsia. The first priority in patients with eclampsia or postictal coma is respiratory and cardiovascular resuscitation. After placing 2 large-bore needles, anticonvulsant medications can be administered. The most effective agent used in eclampsia is magnesium sulfate, which serves primarily to prevent further seizure activity.
(Choices 1 & 5) Lorazepam and phenytoin are more useful in status epilepticus.
(Choices 3 & 4) Any attempt to deliver before resuscitation and stabilization will further aggravate the hemodynamic status and expose both the mother and the baby to serious complications. While prompt delivery is the most definitive therapy in this patient, further seizure activity can occur during the delivery and in the postpartum period and magnesium sulfate must therefore be administered prior to attempting delivery.

184. Question **1 points**

Category: Obstetrics & Gynaecology

A 47-year-old woman presents to your office with complaints of lower abdominal pain, nocturia, urinary urgency and frequency relieved with urination. She states the symptoms have been worsening this past month and she recently experienced dyspareunia. She is sexually active with her husband, but this is causing her a great amount of pain. She has four children and had uncomplicated pregnancies. She denies fevers or chills. On examination, she has diffuse lower abdominal pain with no rebound or guarding. Her external genitalia appear normal. On bimanual examination, palpation of the anterior vaginal wall elicits extreme pain. No cervical motion tenderness is present. No other abnormalities are noted. A urinalysis is negative. The most likely diagnosis is:

1. Urinary tract infection
2. Stress incontinence
3. Cystocele
4. Interstitial cystitis
5. Pelvic inflammatory disease

INCORRECT

The correct answer is 4.

Interstitial cystitis (IC) is a chronic condition of the bladder of uncertain etiology and pathophysiology. It is clinically characterized by the triad of urinary urgency and frequency as well as chronic pelvic pain in the absence of another disease that could cause the symptoms. Pelvic pain is occasionally the presenting symptom or chief complaint. The pelvic pain in interstitial cystitis is classically exacerbated by sexual intercourse, filling of the bladder, exercise, spicy foods and certain beverages. The pain is typically relieved by voiding. Cystoscopy classically demonstrates submucosal petechiae or ulcerations.

(Choice 1) The negative urinalysis in this patient excludes a urinary tract infection. In patients with suspected IC, urinalysis and urine culture should be performed to rule out hematuria and infection.

(Choice 2) Stress incontinence refers to involuntary leakage of urine with effort, exertion, sneezing or coughing. Pain is typically not a symptom of stress incontinence.

(Choice 3) A cystocele refers to a herniation of the bladder with associated descent of the anterior vaginal wall. A cystocele can present with similar symptoms of urinary frequency, urgency and incontinence, but these lesions are most commonly asymptomatic and diagnosed incidentally. On examination a herniation of the upper anterior vaginal wall will be seen.

(Choice 5) Pelvic inflammatory disease is characterized by pelvic pain, cervical motion tenderness and fever. Urinary symptoms are usually not present.

185. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman presents to your office complaining of a seven-week history of amenorrhea. She also states that she has had nausea and vomiting for five weeks. She is sexually active. Her medical and obstetrical histories are unremarkable. Serum hCG level is elevated. Which of the following is the most important role of hCG in pregnancy?

1. Inhibition of uterine contractions
2. Induction of prolactin production by the pituitary
3. Promotion and maintenance of implantation
4. Maintenance of the corpus luteum
5. Induction of early embryonic division and differentiation

INCORRECT

The correct answer is 4.

Human chorionic gonadotropin (hCG) is a hormone secreted by the syncytiotrophoblast and is responsible for preserving the corpus luteum during early pregnancy in order to maintain progesterone secretion until the placenta is able to produce progesterone on its own. Production of hCG begins about eight days after fertilization, and the levels of hCG double every 48 hours until they peak at six to eight weeks gestation. The hCG is composed of two subunits: α and β. The α subunit is common to hCG, TSH, LH, and FSH. The β subunit is specific to hCG, and is used as the basis of virtually all pregnancy tests. Other biological functions of hCG include the promotion of male sexual differentiation and stimulation of the maternal thyroid gland.

(Choice 1) Progesterone is produced in large amounts during pregnancy, and helps to inhibit uterine contractions.

(Choice 2) Estrogen, not hCG, is the hormone responsible for induction of prolactin production during pregnancy.

(Choice 3) Progesterone is the hormone responsible for preparing the endometrium for implantation of a fertilized ovum, not hCG.

(Choice 5) Division of the fertilized egg begins before implantation, and occurs days before hCG secretion begins.

186. Question **1 points**

Category: Obstetrics & Gynaecology

A 38-year-old woman, gravida 2, para 1, at 10 weeks gestation comes to the physician's office for prenatal counseling of genetic disorders. She has a healthy 3-year-old child. Given her age, she is worried about the risk of Down syndrome, and if her baby test is positive for Down syndrome she would like to terminate the pregnancy. Ultrasonogram shows increased fetal nuchal fold lucency. Patient decided to undergo chorionic villus sampling. You explained the risks associated with procedure, including fetal loss and limb reduction defects. Which of the following is the most important influential factor for reducing the incidence of limb reduction defects?

1. Expertise of the operator
2. Route of the procedure
3. Gauge of the needle used
4. Gestational age of the patient
5. Ethnicity of the patient

INCORRECT

The correct answer is 4.

Chorionic villus sampling (CVS) is typically performed between 10-12 weeks of gestation for the early detection of chromosomal abnormalities in the fetus. The procedure can be carried out transabdominally and transcervically by inserting a needle or catheter into the fetal portion of the placenta and aspirating a small amount of chorionic villi for testing. Risks of the procedure include fetal death and limb reduction defects. An increased incidence of distal limb reduction defects occurs when the procedure is carried out before nine to ten weeks gestational age.

(Choice 1) Expertise of the operator has been identified as a possible risk factor in early studies of this phenomenon, but does not appear to be an independent risk factor when the procedure is carried out at the appropriate time.

(Choice 2) The procedure can be carried out transcervically or transabdominally. The route is guided by the position of the fetus and placenta.

(Choice 3) The gauge of the needle used is standard and has not been identified as a risk factor.

(Choice 5) The ethnicity of the patient has not been identified as an independent risk factor for limb reduction defects.

187. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old, gravida 1, para 0, at 13 weeks gestation is brought to the emergency department because of vaginal discharge and lower abdominal discomfort. She has had no passage of tissue from her vagina. She does not use tobacco, alcohol or drugs. She has no history of trauma. Her temperature is 37.0 °C (98.7 °F), blood pressure is 128/80 mmHg, pulse is 76/min and respirations are 14/min. Physical examination shows a closed cervix, a slightly tender uterus with a size consistent with gestational age, free adnexae and scant bright red bleeding from the introitus. Ultrasonogram in the emergency department shows normal fetal heart motion. She is anxious and concerned about her baby. Which of the following is the most likely diagnosis?

1. Incomplete abortion
2. Threatened abortion
3. Completed abortion
4. Inevitable abortion
5. Ectopic pregnancy

INCORRECT

The correct answer is 2.

This patient has a threatened abortion. Threatened abortion is a term used to describe any hemorrhage occurring before the 20th week of gestation with a live fetus. The cervix is closed and there is no passage of fetal tissue. Mild lower abdominal pain may be noted and the fetal heart is active on ultrasound. Twenty five percent of pregnancies have some extent of vaginal bleeding in the first trimester. In half of these cases, a spontaneous abortion will actually occur.

(Choice 1) Incomplete abortion involves the evacuation of some fetal tissue while a remainder is retained in the uterine cavity. Clinical symptoms include vaginal discharge of blood and tissue-like material, abdominal cramps and cervical dilation. Retained products of conception can be visualized with transvaginal ultrasonography.

(Choice 3) In complete abortion, the whole conceptus passes through the cervix. After this passage, the cervix closes and uterine contractions subside. Ultrasonography shows an empty uterus.

(Choice 4) Inevitable abortion manifests with vaginal bleeding, lower abdominal cramps that may radiate to the back and perineum and a dilated cervix. Ultrasonography demonstrates a ruptured or collapsed gestational sac with absence of fetal cardiac motion.

(Choice 5) Ectopic pregnancy typically presents with acute onset abdominal pain and dark red vaginal bleeding in the first trimester. Physical exam reveals an adnexal mass, and ultrasonogram shows no gestational sac in the uterus.

188. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old primigravid woman at 28 weeks gestation comes to the physician because she has not felt her baby's movements for the past two weeks. Fetal heart tones are not heard by Doppler. Ultrasonogram shows absence of fetal cardiac activity. Fetal demise is diagnosed. Laboratory studies show:

Serum fibrinogen level: 250 mg/dl (normal is 150 – 450 mg/dl)
Platelets: 130,000/mm3
Prothrombin time: 15 sec
Partial thromboplastin time: 33 sec

There are no signs of active bleeding. Which of the following is the most appropriate next step in management?

1. Transfusion of fresh frozen plasma
2. Platelet transfusion and fibrinogen replacement
3. Immediate induction of labor
4. Emergency cesarean section
5. Weekly fibrinogen monitoring and expect spontaneous delivery

INCORRECT

The correct answer is 3.

Intrauterine fetal demise (IUFD) refers to death of a fetus in utero that occurs after 20 weeks gestation and before the onset of labor. Ultrasonography demonstrates an absence of fetal movement and fetal cardiac activity. After the diagnosis is confirmed, a coagulation profile should be drawn to detect incipient DIC. Fibrinogen values in the low normal range may be an early sign of consumptive coagulopathy, especially if there is an associated decrease in platelet count, increase in PT and PTI or the presence of FOP. If DIC is suspected, delivery should be performed without delay. When fibrinogen levels are normal, the management decision will depend on the patient's preference: the options are either watchful expectancy or induction of labor. The logic behind watchful expectancy is that labor occurs spontaneously in 80% of cases within 2-3 weeks of IUFD. However, this choice is often inappropriate because of the emotional strain that carrying a dead fetus can cause the mother, as well as the higher risk of complications, such as chorioamnionitis and DIC, that may occur when the fetus has been retained for several weeks.

(Choice 1) Fresh frozen plasma is indicated if DIC and hemorrhage are evident or if the coagulation profile is profoundly abnormal. In the described patient, fibrinogen levels are low normal and prompt delivery is the appropriate treatment. Mild coagulation disturbances will correct spontaneously thereafter.

(Choice 2) The patient does not need platelet transfusion or fibrinogen replacement because she is not bleeding and her coagulation profile is not profoundly disturbed.
(Choice 4) Vaginal delivery is sufficient to eliminate the risk of DIC. Cesarean section will expose the patient to further stress and hazards.
(Choice 5) The patient's fibrinogen is in the low normal range. If delivery is not accomplished promptly, the patient may develop frank DIC.

189. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-oldwoman, gravida2, para 1 at 26 weeks 'gestation, comes to the physician because of fevers and pain in the middle of the back on the right side. Her fevers started 2 days ago, and the back pain began yesterday. Her temperature is 38.3 C (101.0 F), blood pressure is 110/70 mm Hg, pulse is 110/min, and respirations are 16/min. She has left costovertebral angle tenderness. Her abdomen is benign and gravid. Her laboratory values show leukocytes of 18,000/mm^3Urinalysis reveals white blood cells that are too numerous to count per high-powered field. Which of the following is the most appropriate pharmacotherapy for this patient?

1. Acyclovir
2. Cefazolin
3. Levofloxacin
4. Metronidazole
5. Tetracycline

INCORRECT

The correct answer is 2.

This patient has pyelonephritis. The incidence of pyelonephritis in pregnancy is approximately 1 to 2%. The usual symptoms are fever, chills, back pain, dysuria, frequency, and urgency. On examination, these patients will often have a fever and costovertebral angle tenderness. Urinalysis will typically show white and red blood cells. The causative organism is often Escherichia coli. Other organisms commonly isolated are Klebsiella and Proteus. If the patient is otherwise completely stable, outpatient treatment with trimethoprim-sulfamethoxazole or amoxicillin-clavulanic acid may be tried, although many suggest that a pregnant woman with pyelonephritis should be hospitalized. Inpatient management includes IV cefazolin, with or without gentamicin. The major complications of pyelonephritis in pregnancy are sepsis, adult respiratory distress syndrome (ARDS), and preterm labor.

(Choice 1) is an antiviral therapy used for the treatment of severe cases of varicella-zoster virus infection in pregnancy or herpes virus infections. Pyelonephritis is a bacterial infection. Thus, acyclovir would not be appropriate.
(Choice 3) is a DNA gyrase inhibitor that is contraindicated in pregnancy because it is associated with musculoskeletal anomalies.
(Choice 4) is an antibiotic most often used to treat anaerobic organisms. During pregnancy it is used in the treatment of bacterial vaginosis and Trichomonas vaginalis. This patient has pyelonephritis"?" therefore, metronidazole would not be indicated.
(Choice 5) is contraindicated in pregnancy. Its use during pregnancy has been associated with brown discoloration of the deciduous teeth and hypoplasia of the enamel. It can also be deposited into fetal long bones and cause inhibition of bone growth.

190. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old woman presents for evaluation of infertility. She describes her menstrual cycles as irregular stating that they occur anywhere between 32 to 35 days. She has no galactorrhea. She eats a balanced diet and exercises regularly. She has no other medical problems. Her BMI is 22 Kg/m2. Physical examination is unremarkable. Which of the following is the most appropriate initial test to evaluate her infertility?

1. Endometrial biopsy
2. Hysterosalpingogram
3. Mid lute al serum progesterone level
4. Serum testosterone
5. Karyotyping

INCORRECT

The correct answer is 3.

The first step in evaluating infertility is a detailed history and physical examination. This patient's history of irregular menses indicates that she may not be ovulating normally. Patients who are ovulating will typically have regular cycles of 25-35 days with menstrual bleeding for 3- 7 days. They will also classically experience some mid-cycle pelvic pain when ovulation takes place. Ovulation can be confirmed by measuring a midluteal phase serum progesterone level. When ovulation occurs, the corpus lute um produces progesterone. Detection of this increased progesterone level(> 10 ng/ml, normal is< 2ng/ml) on the 21st day of a 28 day cycle indicates that ovulation has occurred.

(Choice 1) Endometrial biopsy (EMB) can be used as an indicator of ovulation because increased levels of progesterone are trophic on the endometrium. A lute al phase defect is diagnosed when progesterone-related changes are not observed on EMB. This test, however, is subject to error in pathologic interpretation and in the time that the biopsy is taken.
(Choice 2) Hysterosalpingogram can be used to evaluate for structural defects in the female anatomy that may lead to infertility. These tests should be undertaken after evidence of ovulation has been confirmed.
(Choice 4) Serum testosterone should be assessed particularly if signs of hyperandrogenism are evident on physical examination.
(Choice 5) Karyotyping is a test often used in the assessment for male infertility and suspected Turner syndrome.

191. Question **1 points**

Category: Obstetrics & Gynaecology

A 39-year-old woman, gravida 3, para 2, at 20 weeks' gestation comes to the physician because of fevers, chills, and a cough for the past week. Her prenatal course had been otherwise unremarkable. Her temperature is 38.0 C (100.4 F), blood pressure is 100/60 mm/Hg, pulse is 98/min, and respirations are 14/min. Examination demonstrates crackles and harsh breath sounds at the right lung base. The physician recommends a chest x-ray, but the patient is concerned about radiation exposure during pregnancy. Which of the following is the most appropriate response?

1. Exposure from a chest x-ray does not cause harmful fetal effects
2. Exposure from a chest x-ray leads to birth defects
3. Exposure from a chest x-ray leads to spontaneous abortion
4. When chest x-ray has occurred, fetal pneumonia is more common
5. When chest x-ray has occurred, termination should be considered

INCORRECT

The correct answer is 1.

Exposure to radiation, particularly in the form of an x-ray, is a major cause of anxiety for pregnant patients. There is a generally held belief that exposure to any radiation during pregnancy will lead to miscarriage or birth defects. There is no evidence, however, of any increase in spontaneous abortion or fetal anomalies at doses of radiation less than 5 rad. This dose is above the level of radiation exposure of diagnostic procedures. The fetal exposure from a chest x-ray with 2 views is approximately 0.05 mrad. This amount is several orders of magnitude below the 5 rad limit. Therefore, it is currently believed that x-ray

exposure from any single diagnostic procedure will not cause harm to the fetus. This patient has signs and symptoms consistent with pneumonia and could therefore benefit from a chest x-ray. She should be reassured that the exposure to the fetus from a chest x-ray is minimal and has not been shown to cause birth defects or fetal loss.
(Choice 2) A chest x-ray exposes the fetus to minute amount of radiation compared with the amount needed to cause birth defects.
(Choice 3) There is no evidence that the exposure of 0.02 to 0.07 mrad of radiation caused by a chest x-ray leads to spontaneous abortion.
(Choice 4) To state that when chest x-ray has occurred, fetal pneumonia is more common is incorrect. The presence or absence of a fetal infection is not dependent on a chest x-ray being performed to evaluate for maternal pneumonia.
(Choice 5) To state that when chest x-ray has occurred, termination should be considered is incorrect. Exposure to x-ray during pregnancy is not an indication for therapeutic abortion.

192. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-old woman, gravida 2, para 0, abortus 1, comes to the outpatient office for a prenatal visit. She is currently at 30 weeks' gestation, confirmed by an 18-week sonogram that showed a single fetus with size appropriate for dates. She states that the fetus is moving well. Pregnancy weight gain to date is 20 lb. Her fundal height today measures 25 cm. Fetal heart tones are heard in the right upper quadrant. An obstetric ultrasound examination reveals essentially no amniotic fluid. Which of the following fetal conditions is most likely associated with this scenario?

1. Duodenal atresia
2. Open spina bifida
3. Tracheoesophageal fistula
4. Renal agenesis
5. Atrial flutter

INCORRECT

The correct answer is 4.

The case describes anhydramnios, or absent amniotic fluid. Marked deficiency in amniotic fluid volume may occur with decreased production or excessive removal of fluid. A serious consequence of oligohydramnios (amniotic fluid index <s cm), regardless of cause, is umbilical cord compression leading to fetal hypoxia. The most serious consequence of anhydramnios is pulmonary hypoplasia, a lethal condition. The only option of the five provided that leads to anhydramnios are renal agenesis.

(Choices 1,2,3 & 5) Polyhydramnios (amniotic fluid index of >2s cm) is found with each of the other options: duodenal atresia, more common with Down syndrome; open spina bifida, often diagnosed by an elevated maternal serum u-fetoprotein test; tracheoesophageal fistula, especially when the esophagus is a blind pouch; and atrial flutter, resulting in nonimmune hydrops.

193. Question **1 points**

Category: Obstetrics & Gynaecology

A 36-year-old woman, gravid a 3, para 2, comes to the physician for a prenatal checkup. According to the last menstrual period and an ultrasonography performed at 16 weeks gestation, she is at 30 weeks gestation. She missed two antenatal appointments. She does not use tobacco, alcohol or drugs. Examination shows a fundal height of 26 cm (9.8 in). Fetal heart tones are heard by Doppler. Repeat ultrasonogram shows a biparietal diameter consistent with dates and an abdominal circumference below the 10th percentile. Which of the following could most likely be responsible for the observed fetal findings?

1. Chromosomal abnormalities
2. Intrauterine infection
3. Hypertension
4. Gross fetal anomalies
5. Inaccurate dates

INCORRECT

The correct answer is 3.

Fetal growth restriction (FGRJ can be symmetric and asymmetric. In symmetric growth restriction, the insult to the fetus begins before 28-weeks gestation and growth of both the head and the body is deficient. It is usually caused by fetal factors such as chromosomal abnormalities, congenital infections and congenital anomalies. Asymmetric FGR is a result of fetal adaptation to non-ideal maternal factors. Asymmetric FGR results from fetal redistribution of blood flow to vital organs, such as the brain, heart and placenta, as the expense of less vital organs, such as the abdominal viscera. Maternal factors such as hypertension, hypoxemia, cigarette smoking, vascular disease and toxic exposures can lead to asymmetric FGR. Asymmetric FGR has a better prognosis than symmetric FGR.

(Choice 1) The fetus in this case has a normal biparietal diameter and a reduced abdominal circumference, which indicate asymmetric FGR. Congenital anomalies and chromosomal abnormalities usually result in symmetric growth restriction.

(Choice 2) An infection by TORCH organisms would have resulted in a symmetric growth restriction, as they usually affect the fetus during early part of pregnancy. Bacterial infections late in pregnancy have not been strongly correlated with FGR.
(Choice 4) Gross fetal anomalies are usually identifiable on ultrasound.
(Choice 5) Ultrasonography performed between 16 and 20 weeks is the most accurate method for pregnancy dating, so it is unlikely that the abnormal measurements that ultrasonography is revealing now, as well as the discrepancy between fundal height and the age of pregnancy, are due to inaccurate dates.

194. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old, gravid a 1 , para 0, at 10 weeks gestation is brought to the emergency department because of moderate vaginal bleeding. She has a colicky suprapubic pain radiating to the back and denies the passage of tissue through her introitus. She does not use tobacco, alcohol or drugs. She has no history of trauma or serious illness. Her temperature is 37.0 °C (98.7 °F), blood pressure is 100/65 mm of Hg, pulse is 90/min and respirations are 17/min. Physical examination shows a dilated cervix and the products of conception can be seen through it. Her blood type is AB Rh negative and her antibody titer is 1: 2. Ultrasonogram shows a ruptured gestational sac with no fetal heart motion. Which of the following is the most appropriate next step in management?

1. Hospitalization, analgesics and observation
2. Reassurance, administration of RhoGAM and follow up
3. Serial β-hCG monitoring
4. IV fluids, suction curettage and RhoGAM administration
5. Administration of a dilute infusion of oxytocin to induce labor

INCORRECT

The correct answer is 4.

Patients with inevitable or incomplete abortions should be hospitalized and carefully observed to prevent complications such as sepsis, DIC and extensive hemorrhage. They may often require analgesia, and in some instances resuscitation is required. The patient described is experiencing an inevitable abortion, which is clinically characterized by rupture of the gestational sac resulting in leakage of amniotic fluid from the vagina accompanied by abdominal pain, uterine contractions and possibly bleeding. Suction curettage is the treatment of choice in inevitable abortion because the pregnancy cannot be maintained and, as in this case, the fetus is typically expired. For all types of abortion, anti-D gamma globulin

(RhoGAM) must be administered to Rh-negative women who do not have anti-Rh antibodies. Counseling sessions to give reassurance and to answer questions the couple may have should always be considered.
(Choice 1) Hospitalization, analgesics and observation are not enough. The products of conception must be evacuated in order to prevent infectious and hematologic complications.
(Choice 2) The fetus is dead and needs to be evacuated. RhoGAM is necessary to avoid sensitization and complications in following pregnancies as the mother is Rh negative with a negative antibody titer.
(Choice 3) Serial testing of β-hCG levels is performed in complete abortion to ascertain that nothing remains in the uterus. It is not necessary in the case of inevitable abortion as curettage is sufficient to remove the expired products of conception.
(Choice 5) Induction of labor is used when a missed abortion is diagnosed after the 16th week of gestation.

195. Question **1 points**

Category: Obstetrics & Gynaecology

A 37-year-old G4 P3 woman delivered a 4,100 gram (9.02 lbs) infant by spontaneous vaginal delivery one hour ago. This pregnancy has been complicated by gestational diabetes for which she is being treated with insulin. The patient is currently on magnesium sulfate for elevated blood pressures and proteinuria. You are called to evaluate her because she began to have very heavy vaginal bleeding and is feeling lightheaded. Her blood pressure is 90/60 mm Hg and pulse is 98/min. On physical examination you see heavy vaginal bleeding and numerous blood clots. Her cervix is closed and the uterus can be palpated 3 cm above the umbilicus. The uterus feels boggy. The next best step in management is:

1. Dilatation and curettage
2. Oxytocin infusion
3. Packing of the uterine cavity
4. Cesarean hysterectomy
5. Immediate uterine artery embolization

INCORRECT
The correct answer is 2.
The first step in a situation of postpartum hemorrhage is general supportive measures. These include:

1. Fundal or bimanual massage (stimulates the uterus to contract and resolves hemorrhage in most cases)

2. Intravenous access
3. Crystalloid infusion to keep SBP above 90 mm Hg
4. Notification of blood bank for PRBC

Uterine atony is a common cause of postpartum hemorrhage. Risk factors include uterine hyperdistention due to a large fetus, as in this case, hydramnios or a multiple gestation and increased parity. A uterotonic agent such as oxytocin should be administered immediately. Oxytocin will cause contraction of myometrial fibers and retraction of myometrial blood vessels, thereby controlling bleeding in most cases.

(Choice 1) A search for retained intrauterine products of conception is important and if found manual removal is attempted. If manual removal is unsuccessful curettage can be performed. However, the initial important measures are fundal massage, and infusion of crystalloids and uterotonic agent.

(Choice 3) Uterine packing for tamponade is performed if medical therapy fails and in conjunction with preparations for surgery.

(Choice 4) Caesarean hysterectomy is used as the last resort but can be effective and lifesaving in the treatment of postpartum hemorrhage.

(Choice 5) Uterine artery embolization or ligation of the uterine or internal iliac arteries can be used for a patient with stable vital signs and persistent bleeding if the rate of loss is not excessive. It can be used as an alternative to a hysterectomy in a stable patient who wishes to preserve fertility.

196. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman, gravida 2, para 2, had a liquid based thin-layer cervical Pap smear performed in the office a week ago. A high-grade squamous intraepithelial lesion was reported. Human papilloma virus (HPV) typing was positive for serotypes 16 and 18. She returned to the office and underwent colposcopically directed cervical biopsy. The entire transformation zone was seen with no lesion entering the endocervical canal. A specimen from a biopsy of a lesion at 6 o'clock on the cervix exhibited abnormal vessels and mosaicism. The histologic report showed full-thickness dysplastic epithelial changes with malignant cells that had penetrated the basement membrane and had invaded lymphatics. Which of the following procedures would be considered appropriate in identifying the stage of her disease?

1. ○ Intravenous pyelogram
2. ○ Laparoscopy
3. ○ Exploratory laparotomy
4. ○ Lymphangiogram
5. ○ Lymphadenectomy

INCORRECT

The correct answer is 1.

Cervical cancer is the third most common female reproductive malignancy; it is responsible for 20% of all gynecologic cancers. The prevalence of cervical cancer has been markedly decreased over the past decades because of the widespread use of the Pap smear for cytologic screening. The most common tumor type is squamous cell carcinoma. This is the only gynecologic cancer that is not surgically staged. Although staging is clinical, an intravenous pyelogram can be used. The primary staging is based on the depth of invasion through the basement membrane established by the histology of the cervical biopsy. The degree of spread to the broad ligament and pelvis is established by bimanual pelvic exam. **(Choices 2,3,4 & 5)** Laparoscopy is not used for surgical staging of any gynecologic cancer because adequate visualization cannot be achieved. Exploratory laparotomy is used for staging of ovarian and endometrial carcinoma. Lymphangiogram and lymphadenectomy may be helpful in assessing spread of vulvar cancer but are not used for cervical cancer staging.

197. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old nulligravid woman comes to the physician for her first prenatal visit. She has no complaints. She is unsure of the date of her last menstrual period. Examination is unremarkable. Given her uncertainty regarding her last menstrual period, ultrasound is performed. It shows a 7-week intrauterine pregnancy and a 5 by 4 cm right simple cyst. Which of the following is the most appropriate next step in the management of this cyst?

1. Repeat ultrasound in second trimester
2. Oral contraceptive pills
3. Laparoscopy
4. Laparotomy
5. Termination of the pregnancy

INCORRECT

The correct answer is 1.

It is quite common to find cysts in the first trimester of pregnancy. These cysts are most often corpus luteum cysts. The corpus luteum is the name of the structure that is formed from the ovarian follicle after ovulation occurs. Its role is to produce progesterone to support the pregnancy until the placenta can take over that function. Sometimes corpus luteum cysts

can form. These cysts can cause complications if they undergo torsion or if they hemorrhage. However, not all cysts in early pregnancy are corpus luteum cysts; some represent malignancies. Therefore, the correct management of a cyst in early pregnancy is with followup ultrasound to look for resolution of the cyst. If, on the second trimester ultrasound, the cyst is not resolving or is •growing larger, or if there are other worrisome characteristics, then operative intervention is indicated.
(Choice 2) Oral contraceptive pills are often given to nonpregnant women to prevent cyst formation. They would be contraindicated in pregnancy.
(Choices 3 & 4) Laparoscopy and laparotomy are too invasive to be used for a relatively small, simple cyst that is likely a corpus luteum cyst in an asymptomatic patient in the first trimester. If the patients were having significant symptoms or there were evidence of torsion, hemorrhage, or malignancy, then operative intervention might be warranted.
(Choice 5) would not be an appropriate next step in management. This is a desired pregnancy in a patient with a simple cyst in the first trimester. The cyst is most likely benign and will not cause significant complications during the pregnancy.

198. Question **1 points**

Category: Obstetrics & Gynaecology

A 42-year-old woman, gravida 4, para 3, at 38 weeks' gestation, comes to the labor and delivery ward complaining of contractions. She has had type 1 diabetes since the age of 20. She has a history of syphilis that was adequately treated 4 years ago. She took insulin and prenatal vitamins throughout the pregnancy.Otherwise; her prenatal course was unremarkable, including normal screening. Her blood pressure is 140/90 mm Hg. Her cervix is 4 cm dilated and 100%effaced.She is admitted. Which of the following IV medications will this patient likely require during labor and delivery to prevent neonatal complications?

1. Hydralazine
2. Insulin
3. Labetalol
4. Meperidine
5. Penicillin

INCORRECT
The correct answer is 2.
Patients with type 1 diabetes mellitus often require insulin during labor and delivery. The insulin is given to prevent the mother from developing hyperglycemia. Maternal

hyperglycemia during labor and delivery can lead to fetal hyperglycemia, which can lead to neonatal hypoglycemia. The goal during labor and delivery is plasma glucose of 100 mg/dL. This is best accomplished using a continuous infusion of regular insulin.
(Choices 1 & 3) Hydralazine and labetalol are anti-hypertensives that can be given intravenously antepartum-w when the diastolic blood pressure exceeds 110 mm Hg. This patient has a diastolic blood pressure of 90 mm Hg; therefore, neither drug would be indicated.
(Choice 4) is narcotics that can be given intravenously for pain control during labor. IV narcotic use, however, is becoming less common with the more widespread use of epidural anesthesia during labor and delivery.
(Choice 5) is an antibiotic that is given t(women during labor and delivery to prevent Group streptococcal disease of the newborn. On the basis of this patient's unremarkable prenatal course and normal screening she would not need penicillin during labor and delivery. Syphilis is also treated with penicillin. However, this patient was already adequately treated for syphilis and would not need penicillin for this indication.

199. Question **1 points**

Category: Obstetrics & Gynaecology

A 21-year-old woman, primigravida, presents at 39 weeks' gestation in active labor. She is 155 cm tall and weighs 75 kg. Her pregnancy weight gain has been 20 kg. On digital vaginal examination, the fetus is in cephalic presentation at -1 station. Her cervix is 5 cm dilated, 90% effaced, soft, midposition. Onset of regular uterine contractions was 8 hours ago, and she is now experiencing regular contractions every 3 minutes, lasting 45 seconds, which are firm to palpation. Clinical pelvimetry shows her pelvic dimensions as follows: pelvic sidewalls are straight, ischial spines are not prominent, pubic arch is wide, sacrum is hollow, and sacrosciatic notch is well rounded. Based on general bony architecture, the characteristics of this woman's pelvis identify it as which one of the following common female bony shapes?

1. Gynecoid
2. Android
3. Anthropoid
4. Platypelloid
5. Obstetroid

INCORRECT

The correct answer is 1.
The classification of female bony pelvis types is based on the work of Caldwell and Moloy, who examined large numbers of x-ray pelvimetry films. These procedures hark back to the days when radiographs of the pelvis were obtained in cases of protracted labors. The pelvis described in this question is characteristic of the gynecoid shape. It is the most common shape, occurring in approximately 50% of women. The dimensions of the gynecoid shape allow optimal use of the pelvic diameters in obtaining a vaginal delivery.
(Choices 2,3 & 4) Android pelvises predispose to arrest of descent, anthropoid pelvises predispose to occiput posterior position at delivery, and platypelloid pelvises predispose to occiput transverse position at delivery. These pelvic shapes occur with frequencies of 30%, 20%, and 3%, respectively. Some women have combinations of features from more than one pelvic shape.
(Choice 5) is not a formally described pelvic shape.

200. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-old primigravid woman at 34 weeks' gestation presents for a routine prenatal visit. Her pregnancy has been uncomplicated to date. Her past medical history is unremarkable. She takes one multivitamin and one iron tablet daily. She has no known drug allergies. Physical examination shows a uterus consistent in size with 34 weeks gestational age. Routine clean-catch urine culture grows greater than 100,000 colonies/ml of Escherichia coli. Which of the following is the most appropriate pharmacotherapy?

1. Amoxicillin
2. Ciprofloxacin
3. Clindamycin
4. Doxycycline
5. Trimethoprim-sulfamethoxazole

INCORRECT
The correct answer is 1.
This woman has asymptomatic bacteriuria, a positive urine culture in the absence of urinary tract symptoms. Guidelines dictate that pregnant women with asymptomatic bacteriuria should be treated with antibiotics in order to decrease invasive urinary tract infections, pre term deliveries, and low birth weight children. The evidence for treatment is most robust for

women between 12 and 16 weeks' gestation, but some authorities extend this recommendation throughout pregnancy. For a woman in the third trimester of pregnancy, the recommended antibiotics are amoxicillin, nitrofurantoin, or an oral cephalosporin.
(Choice 2) Ciprofloxacin is a first-line agent in the treatment of pyelonephritis and may also be used for uncomplicated cystitis in non-pregnant adults. Fluoroquinolones are class C drugs in pregnancy because they have the potential to cause arthropathy in the unborn fetus.
(Choice 3) Clindamycin is a class B medication in pregnancy. While it would probably be safe for this woman, it is a poor choice for urinary tract infections because it has no gram negative coverage.
(Choice 4) Doxycycline and other tetracycline antibiotics are class D medications in pregnancy. They interfere with tooth development and should not be used in the second half of pregnancy or in children less than 8 years of age.
(Choice 5) Trimethoprim-sulfamethoxazole is a class C medication in pregnancy. It may be used during the second trimester but is not recommended for use during the first trimester because it interferes with folic acid metabolism or during the third trimester because it increases the risk of kernicterus in the newborn.

201. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old primigravid woman at 32 weeks' gestation comes to the emergency department because of heavy vaginal bleeding and abdominal pain. Her prenatal course was unremarkable, including a normal 20- week ultrasound. Physical examination demonstrates a contracted uterus with hypertonus. A large "gush" of blood occurs during the cervical examination, which demonstrates a long and closed cervix. The fetal heart rate tracing shows severe late decelerations. Which of the following is the most appropriate next step in management?

1. Expectant management
2. Magnesium sulfate
3. Oxytocin
4. Terbutaline
5. Cesarean section

INCORRECT

The correct answer is 5.

This patient presents with the classic triad of placental abruption: third-trimester bleeding, uterine contractions or hypertonus, and fetal distress. Placental abruption occurs when a normally implanted placenta separates prematurely from its attachment to the uterus.

Management of a placental abruption depends on its severity and the status of the maternal cervix. This patient has a severe abruption with fetal distress and a closed cervix. Cesarean section is indicated both for fetal and maternal indications. To not perform cesarean section in this case places the fetus at risk of death and the mother at risk of significant morbidity and mortality from hemorrhage.
(Choice 1) would not be appropriate with this presentation of abruption. Sometimes small abruptions occur with only a limited amount of placental separation, a small amount of bleeding, and no fetal distress. These abruptions, particularly when the fetus is premature, may be managed expectantly.
(Choices 2 & 4) Magnesium sulfate and terbutaline are tocolytic drugs used to stop contractions. In general tocolytics are contraindicated in the setting of placental abruption. In select patients with minor abruptions and no fetal distress that are remote from term, tocolytics may be used. In general, however, they are contraindicated for use during a placental abruption.
(Choice 3) is used to induce labor. It may be used in certain cases of placental abruption. This patient, however, has a severe abruption and fetal distress requiring cesarean section.

202. Question **1 points**

Category: Obstetrics & Gynaecology

A 30-year-old woman, gravida 3, para 1, abortus 1, is at 30 weeks' gestation by dates. She has been married for 7 years to the same husband. Her first pregnancy ended in a spontaneous first-trimester loss. Her second pregnancy was unremarkable until delivery at term, when she underwent an emergency low transverse cesarean section because of double footling breech presentation. She has worked in a child daycare center for the past 5 years. She vacationed in Thailand for 2 weeks last year. On routine prenatal laboratory testing, you find that she is hepatitis B surface antigen positive, and anti-HBc IgM negative. She inquires about the significance of this finding concerning herself, as well as her baby. Which of the following statements best summarizes what you will say?

1. ○ Pregnancy accelerates the course of acute hepatitis B in the mother.
2. ○ Mode of delivery has no impact on maternal-neonatal hepatitis B transmission.
3. ○ Breastfeeding does not increase neonatal risk of hepatitis B.
4. ○ Neonates can be protected from hepatitis B by passive immunization at birth. ☐
5. ○ Rapidity of hepatitis B progression is the same in mother and neonate.

INCORRECT ☐

The correct answer is 4.
Hepatitis B is a serious perinatal viral infection that can be vertically transmitted from mother to neonate, most often at birth. The neonate can be protected from hepatitis B by passive immunization at birth using hepatitis B immune globulin (HBIG) followed by immunization thereafter. Confirmation of immunization in the infant is carried out approximately a year after birth by testing for HBsAg, anti-HBc, and anti-HBs. The hepatitis B virus is a double-stranded DNA virus that is transmitted via blood, saliva, vaginal secretions, semen, and breast milk, as well as across the placenta. Hepatitis B surface antigen (HBsAg) is the earliest marker of hepatitis B viral infection or carrier state. To clarify further, anti-HBc IgM should also be checked. It is the best marker of acute hepatitis B infection and is seen early. If this had tested positive in the mother, she has acute infection and is not a carrier of the disease. In the vignette presented, she is a carrier of the disease.
(Choice 1) Pregnancy does not appear to accelerate acute hepatitis B in the mother.
(Choice 2) The main route of neonatal infection is by vaginal delivery.
(Choice 3) The virus also can be transmitted through breast milk.
(Choice 5) Neonatal infection has a higher likelihood of progression to active hepatitis than it does in the mother. Most pregnant women exposed to hepatitis B will become carriers with no active liver disease. However, in the neonate, the course of the infection often can be fulminant and lethal.

203. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old Hispanic woman, gravida 3, para 2 initiated prenatal care at 14 weeks' gestation. Her two previous pregnancies were 5 and 8 years ago. They resulted in spontaneous vaginal deliveries at term of a 9 lb (4,082 g) daughter and a 9 lb 8 oz (4,309 g) son. Her weight is 180 lb (82 kg). She is 62 inches (157 cm) tall. She underwent a 1 hour 50 g glucose screen at 26 weeks' gestation with a resulting value of 165 mg/dL. After 3 days of carbohydrate loading, she then proceeded to have a 3 hour 100 g oral glucose tolerance test. The resulting values are as follows: fasting, 92: 1 hour, 194: 2 hours, 170: 3 hours, 135. In White's classification of diabetes in pregnancy, she meets the criteria for which of the following categories?

1. Class A1
2. Class A2
3. Class B
4. Class C
5. Class D

INCORRECT

The correct answer is 1.

Gestational diabetes is a common medical complication of pregnancy with a prevalence of 3%–5%. Common risk factors include ethnic background (Hispanic, African American, American Indian, and Pacific Islander), elevated body mass index, and age over 25 years. The patient in this case has many risk factors. The incidence of overt diabetes mellitus in pregnancy is less than 0.5%. If present, it can adversely affect both mother and fetus. The levels in White's classification of diabetes in pregnancy describe increasing perinatal risks as the alphabet letters increase. Class A diabetes is the lowest risk with onset during the pregnancy. The case presentation describes a normal fasting, but abnormal 1and 2-hour glucose values. This description meets the criteria for class A1; therefore, the disorder can be treated with diet alone.

(Choice 2) Class A2 is gestational diabetes requiring insulin.

(Choice 3) Class B diabetes describes overt diabetes with onset after age 20 and duration less than 10 years.

(Choice 4) Class C diabetes describes overt diabetes with onset between ages 10 and 19 years, with duration between 10 and 19 years.

(Choice 5) Class D diabetes describes overt diabetes with onset before age 10 years and duration over 20 years. All classes beyond Class A1 require additional insulin therapy.

204. Question **1 points**

Category: Obstetrics & Gynaecology

A 28-year-old woman presents to her obstetrician for her first prenatal visit. She is at 8 weeks' gestation as determined by her last menstrual period. She has no medical problems and takes no medications. She does not smoke cigarettes and stopped drinking alcohol when she decided to become pregnant. She has no history of illicit drug use and has never been diagnosed with a sexually transmitted disease. She has been in a monogamous relationship with her husband for the past one year. Her family history is unremarkable. Her BMI is 23 kg/m2. Her physical examination, including vital signs, is within normal limits. Which of the following preventive measures is warranted at this visit?

1. Influenza vaccine
2. Hemoglobin electrophoresis
3. Hepatitis C antibody testing
4. Chlamydia PCR

INCORRECT

The correct answer is 1.

The Centers for Disease Control (CDC) recommend that all pregnant women without contraindications receive the influenza vaccination.

(Choice 2) Hemoglobin electrophoresis is only recommended for patients at high risk for transmitting a hemoglobinopathy based on family history, and is not routine.

(Choice 3) There is no indication for the routine evaluation of hepatitis C status in patients at low risk.

(Choice 4) The USPSTF recommends that all pregnant women age 24 and younger, as well as older pregnant women at elevated risk (new or multiple partners, history of sexually transmitted infections, etc.), be screened for chlamydial infection. The USPSTF does not recommend routine testing in women age 25 and older at average risk for Chlamydia.

205. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old primigravid woman at 35 weeks gestation comes to the emergency department with uterine contractions. She started these contractions six hours earlier, and they have not increased in intensity since then. The contractions started in the lower abdomen and are irregular. Her pregnancy has been uncomplicated. Her prenatal course, prenatal tests and fetal growth have been normal. She has no history of trauma. She does not use tobacco, alcohol or drugs. Vital signs are normal. Examination shows a firm, posterior and closed cervix. Ultrasonogram in the emergency department shows a gestational age of 35-weeks and the fetus in the vertex presentation. Feta l heart tones are heard. She feels better after mild sedation. Which of the following is the most appropriate next step in management?

1. Admit to the hospital for delivery
2. Begin tocolysis
3. Intravenous penicillin
4. Corticosteroids
5. Reassure and discharge the patient home

INCORRECT

The correct answer is 5.

The patient described is in false labor. False labor usually occurs in the last 4 – 8 weeks of pregnancy. It is important to differentiate false labor from true labor. In false labor, contractions are felt in the lower abdomen, are irregular, occur at an interval that does not

shorten and do not increase in intensity. In the last month of pregnancy, patients may experience contractions that become rhythmic, occurring every 10 to 20 minutes, and contractions of greater intensity, mimicking more closely the contractions of actual labor. In all cases of false labor, however, contractions are not accompanied by progressive cervical changes and are usually relieved by sedation.
(Choice 1) True labor is characterized by contractions that occur at regular intervals with a progressively shortening interval and increasing intensity. The pain in true labor occurs in the back and upper abdomen and is not relieved by sedation. Cervical changes are typically observed.
(Choices 2 & 4) In the setting of premature labor, corticosteroids should be administered to promote fetal lung maturity and tocolysis should be accomplished to allow the corticosteroids at least 48 hours for full effectiveness.
(Choice 3) Penicillin is indicated in mothers who are determined to be carriers of group B streptococcus or those who have syphilis.

206. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old primigravid woman at 9 weeks' gestation comes to the physician for her first prenatal visit. She has had some mild nausea but is otherwise doing well. She has no medical problems and has never had surgery. She occasionally takes acetaminophen for headaches. She has no known drug allergies. She wants to know what level of alcohol consumption is considered safe during early pregnancy. Which of the following is the most appropriate response?

1. The level is unknown
2. 2 drinks/ day
3. 2 ounces/day
4. 4 drinks/ day
5. 4 ounces/day

INCORRECT

The correct answer is 1.

Alcohol consumption during pregnancy is a major cause of significant fetal birth defects. Alcohol is known to cause fetal alcohol syndrome (FAS). FAS is characterized by growth retardation both before and after birth, facial anomalies, and CNS dysfunction. FAS is the most commonly recognized cause of mental retardation. It is usually seen in the children of women who drink more than 3 ounces of alcohol per day during pregnancy. Lesser amounts of alcohol are associated with fetal alcohol effects. These effects include minor anomalies,

growth deficiency, mental defects, and behavior abnormalities. Alcohol is also associated with an increased risk of perinatal death and low intelligence quotient scores. Although most studies have focused on daily or consistent alcohol intake, occasional binge drinking also likely represents a significant threat to the fetus. There is no safe level for maternal drinking during pregnancy.
(Choices 2,3,4 & 5) Two drinks per day, 2 ounces per day, 4 drinks per day, and 4 ounces per day are not considered to be safe levels of alcohol consumption. The occasional drink during pregnancy has not been proven to be unsafe, but no degree of alcohol intake has been proven to be safe. Alcohol intake of 2-4 drinks/day or 2-4 ounces/day would certainly be considered unsafe in pregnancy.

207. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old primigravid woman at 1 0 weeks gestation is brought to the emergency department because of vaginal bleeding and lower abdominal pain. She was cleaning the house when she suddenly started feeling colicky pain in the suprapubic area. The pain did not subside after resting, and a few minutes later a tissue like substance passed through her vagina along with moderate bleeding. The pain subsequently ceased, but she still has mild discomfort. Her temperature is 37.0 °C (98.7 °F), blood pressure is 120/70 mmHg, pulse is 90/min and respirations are 16/min. Physical examination shows a closed cervix and blood pooled in the vaginal vault. Ultrasonogram shows a vacant uterine cavity and free adnexae. Which of the following is the most likely diagnosis?

1. Incomplete abortion
2. Threatened abortion
3. Molar pregnancy
4. Inevitable abortion
5. Ectopic pregnancy
6. Complete abortion

INCORRECT
The correct answer is 6.
Complete abortion is a form of spontaneous abortion where the whole conceptus passes through the cervix. The cervix then closes, and the associated pain and uterine contractions subside. Ultrasonography shows an empty uterus.
(Choice 1) Incomplete abortion implies the evacuation of some of the fetal tissue while the remainder is retained in the uterine cavity.

(Choice 2) Threatened abortion refers to any hemorrhage from the uterine cavity occurring before the 20th week of gestation with a live fetus. The cervix is closed and there is no passage of fetal tissue. Mild lower abdominal pain may be noted, and the fetal heart is active on ultrasound.
(Choice 3) Symptoms of molar pregnancy include first trimester vaginal hemorrhage associated with expulsion of vesicles, excessive nausea and vomiting and uterine size greater than dates. Ultrasonography shows a “snow storm” appearance, and β-hCG serum levels are increased beyond what would be expected for a normal pregnancy.
(Choice 4) Inevitable abortion presents as vaginal bleeding, lower abdominal cramps and a dilated
cervix. Ultrasonography demonstrates a ruptured or collapsed gestational sac with absence of fetal cardiac motion.
(Choice 5) In ectopic pregnancy, the ultrasonogram shows an adnexal mass and empty uterus.

208. Question **1 points**

Category: Obstetrics & Gynaecology

A 22-year-old primigravid African American woman comes to the physician for her first prenatal visit. She has no complaints. Her last menstrual period was 7 weeks ago. Past medical history is significant for sickle cell trait. Her partner is also known to have sickle cell trait. She takes no medications and has no allergies to medications. Physical examination is unremarkable except for a mildly enlarged uterus consistent with early pregnancy. Which of the following represents this couple’s risk of having a child with sickle cell anemia?

1. 0%
2. 25%
3. 50%
4. 75%
5. 100%

INCORRECT

The correct answer is 2.

Sickle cell anemia results when a person has two copies of the sickle gene. This gene is on chromosome 11 and represents a mutation of the normal beta hemoglobin gene. The gene that codes for sickle hemoglobin has a single base pair substitution that results in coding for the amino acid valine rather than the glutamic acid, which is present in the normal beta globin chain. This amino acid substitution results in a hemoglobin that is susceptible to sickling at

times of stress, infection, or decreased oxygen tension. These patients have sickle crises, which are acute, painful episodes believed to be associated with sickling in the microcirculation. They also may have increased susceptibility to infection, leg ulcers, autosplenectomy, thromboses, and cerebrovascular accidents. The disease is transmitted in an autosomal recessive fashion and is most common among persons of African descent. This patient has the sickle trait and so does her partner. Therefore, the child has a 25% chance of being born with sickle cell anemia. This disease will not affect the fetus in utero: fetal hemoglobin, which does not have a beta globin chain, is the primary hemoglobin type in the fetus. However, because of the risk of sickle cell anemia, some patients wish to have genetic testing performed.
(Choice 1) is incorrect. With a disease that is transmitted in an autosomal recessive fashion, when both parents have the trait, they have a 25% chance of having offspring affected with the disease. If one parent does not have the trait, then the chance of having offspring with the disease would be 0%.
(Choice 3) is incorrect. This couple has a 50% chance of having a fetus with sickle trait-that is, one normal copy of the beta-hemoglobin gene and one copy for sickle hemoglobin-but only a 25% chance of having a child with sickle disease.
(Choice 4) is incorrect for the above-given reasons.
(Choice 5) is incorrect. With an autosomal recessive disease, only if both partners have the disease is the likelihood 100% that the offspring will have the disease.

209. Question **1 points**

Category: Obstetrics & Gynaecology

A 65-year-old woman is found to have osteoporosis on DEXA scan. She underwent right knee surgery five years ago and developed post-operative deep venous thrombosis, for which she was treated with 6 months of warfarin therapy. She also has severe gastroesophageal reflux disease and takes lansoprazole daily. Her mother died of breast cancer, her maternal aunt has endometrial cancer, and her paternal aunt has a history of ovarian cancer. She does not want to use bisphosphonates because of her reflux symptoms, and would like to consider raloxifene. Which of the following is a contraindication to raloxifene in this patient?

1. History of breast cancer in her mother
2. History of endometrial cancer in her maternal aunt
3. History of ovarian cancer in her paternal aunt
4. History of deep vein thrombosis

INCORRECT

The correct answer is 4.
Raloxifene is a selective estrogen receptor modulator (SERM) that increases bone mineral density and is used to prevent osteoporosis. It is one of the first-line agents for this purpose, although it is somewhat less effective than bisphosphonates or estrogen. The most important side effect of raloxifene is an increased risk of venous thromboembolism. Raloxifene is therefore contraindicated in patients with a history of deep venous thrombosis. It may also cause hot flashes and leg cramps.
(Choice 2) Unlike tamoxifen, raloxifene does not increase the risk for endometrial cancer.
(Choice 1) Raloxifene decreases the risk for breast cancer.
(Choice 3) There is no definitive data showing an effect of raloxifene on the risk of ovarian cancer.

210. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman comes to the physician 2 weeks after experiencing a spontaneous abortion at 6 weeks' gestation. She has no vaginal bleeding, abdominal pain, fevers, or chills. Examination is unremarkable, including a normal pelvic examination. She states that this was her first pregnancy and she wants to know whether she and her husband need testing to determine why the miscarriage occurred. After comforting the patient, which of the following is the most appropriate response?

1. Investigation is initiated after the first, first trimester miscarriage
2. Investigation is initiated after two consecutive first-trimester miscarriages
3. Investigation is initiated after three consecutive first-trimester miscarriages
4. Investigation is initiated after four consecutive first-trimester miscarriages
5. There is no need to investigate recurrent miscarriages

INCORRECT
The correct answer is 2.
Spontaneous abortion (what is commonly called miscarriage by the lay population) is a common event. Approximately 10% to 20% of all clinically recognized pregnancies end in spontaneous abortion. If one includes chemical pregnancies (i.e., pregnancies in which a fertilization event takes place and there. is an increase in the serum hCG level in the woman), the spontaneous loss rate is probably greater than 50%. However, although it may be a common event, it can still be an emotionally difficult time for a woman and a couple. Therefore, comfort and reassurance must be the first steps in dealing with the patient. In terms of investigating the reasons behind the spontaneous abortion, the current

recommendation is that investigation be performed on couples after two consecutive first-trimester miscarriages. This investigation includes an evaluation of the parental chromosomes and the uterine cavity, and screening for diabetes, lupus, thyroid disease, autoimmune antibodies, and infection.
(Choice 1) Because the background spontaneous abortion rate is so high, to investigate every couple after their first trimester miscarriage would lead to a costly and invasive evaluation being done on a large number of couples who do not have a problem.
(Choice 3) Investigation initiated after three consecutive first trimester miscarriages had formerly been the accepted practice, but is no longer the case.
(Choice 4) To state that investigation is initiated after four consecutive first-trimester miscarriages is incorrect.
(Choice 5) To state that there is no need to investigate recurrent miscarriages is incorrect. The investigation of recurrent spontaneous abortions can lead to the discovery of a treatable condition in the patient. For example, an infection can be treated, as can certain uterine anomalies.

211. Question **1 points**

Category: Obstetrics & Gynaecology

A 35-year-old female complains of nipple discharge. The discharge is from both breasts, brown in color and occurs intermittently. She has two children who are 5 and 8 years old. She has not been recently pregnant. Her last menstrual period was one week ago. She describes no other symptoms. Examination shows normal breasts without palpable lumps or nipple abnormalities. Brownish discharge is expressed from the nipples, and it is guaiac negative. Which of the following is the most appropriate next step in management?

1. Mammogram
2. Ultrasonogram
3. Cytologic examination
4. Serum prolactin and TSH levels
5. Surgical evaluation

INCORRECT

The correct answer is 4.

The woman's nipple discharge is most consistent with galactorrhea. Galactorrhea presents as bilateral nipple discharge that is most often milky or clear in color, but can also be yellow, brown, or green. Further evaluation for the causes of galactorrhea should thus be pursued in this patient via testing of serum prolactin and TSH levels. The red flags to watch out for in

cases of nipple discharge are unilateral secretion, guaiac positive fluid, and breast lump. In the case of bilateral guaiac negative discharge, and in the absence of a breast mass, mammography is not necessary. The patient can be reassured that breast cancer is very unlikely. Pregnancy, another common cause of bilateral nipple discharge, is unlikely given that the patient had her LMP one week ago.
(Choice 1) Mammography is used both in screening for breast cancer, and in evaluating certain cases of breast lump or nipple discharge. If this patient had blood or guaiac positive fluid in her nipple discharge, or a breast lump on exam, mammography would be indicated.
(Choice 2) Ultrasonogram is one test that can be used in the evaluation of a breast mass. It is most useful at discerning fluid-filled masses from solid masses, evaluating the denser breast tissue of younger women, and in guided biopsies. Ultrasound is not part of the work-up for galactorrhea.
(Choice 3) Cytologic examination is indicated in cases of uni-ductal and guaiac positive nipple discharge. It allows the pathologist to examine cells from the duct to distinguish carcinoma, proliferative changes, and inflammatory processes. It is not indicated for guaiac negative discharge.
(Choice 5) Surgical evaluation would have been indicated for this patient had her nipple discharge involved gross blood, tested guaiac positive, or been associated with a breast lump.

212. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old female comes to the physician because of abdominal bloating, headache, fatigue, weight gain, anxiety, and decreased libido. She experiences these symptoms seven to ten days before the start of each menstrual cycle. She has a past history of postpartum depression, but she denies any recent feelings of hopelessness or guilt. Physical examination shows no abnormalities. Complete blood count, serum chemistries and thyroid stimulating hormone levels are within normal limits. Which of the following is the most appropriate next step in management?

1. Cognitive behavioral therapy
2. Prescribe selective serotonin re uptake inhibitors
3. Advise menstrual diary
4. Insight oriented and supportive psychotherapy
5. Prescribe alprazolam

INCORRECT

The correct answer is 3.
This woman's presentation is most consistent with premenstrual syndrome (PMS). The most common physical manifestations of PMS are bloating, fatigue, headaches, and breast tenderness. Psychological
symptoms may include anxiety, mood swings, difficulty concentrating, decreased libido and irritability. Symptoms usually begin one to two weeks prior to menses, and regress around the time of menstrual flow. Symptoms are then typically absent until the next ovulation. Maintaining a menstrual diary for at least 3 cycles is a useful aid for confirming the diagnosis in suspected cases; PMS is confirmed when symptoms occur repeatedly and predictably in the days prior to menstruation and are absent or less severe during the follicular (proliferative) phase. If symptoms are present throughout the menstrual cycle, then other conditions such as mood disorder are more likely.
(Choices 1,2,4 & 5) Once the diagnosis of PMS is confirmed, treatment depends on the patient's complaints. There is no universally accepted treatment. Reduction of caffeine intake may reduce breast symptoms. An exercise program may be effective in improving the general well being of the patient. In women whose symptoms are more severe and cause socioeconomic dysfunction, selective serotonin reuptake inhibitors (SSRIs) are the drug of choice. When SSRIs fail to alleviate symptoms in such patients despite therapy over multiple cycles, low dose alprazolam is indicated. Relaxation techniques and bright light therapy have some proven effect in management of PMS, but cognitive behavioral therapy and insight oriented and supportive psychotherapy do not play a role. Treatment should not be initiated until the diagnosis is made.

213. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old African American female presents in the 35th week of an uncomplicated pregnancy with numbness and burning in her right palm. She says the sensation is so uncomfortable that it frequently makes it difficult to sleep. Which of the following is the best initial treatment for this patient?

1. Indomethacin
2. Oral corticosteroids
3. Local corticosteroid injection
4. Wrist splinting
5. Decompression surgery

INCORRECT

The correct answer is 4.
This patient presents with paresthesias in the distribution of the median nerve, making carpal tunnel syndrome (CTS), a median nerve compression neuropathy, the most likely diagnosis. CTS symptoms are
worsened by manual activity and often wake the patient from sleep. Repetitive wrist flexion and extension is the usual cause of CTS. The incidence is increased in pregnancy secondary to an estrogen-mediated depolymerization of ground substance, which causes interstitial edema in the hands (and face) and thus increased pressure within the carpal tunnel. Prolonged or repetitive wrist flexion and extension also increase carpal tunnel pressure. Therefore, the initial treatment is a neutral position wrist splint.
(Choice 1) While NSAIDs may decrease the pain associated with carpal tunnel syndrome, their use during pregnancy is associated with an increased risk of miscarriage and may promote premature closure of the fetal ductus arteriosus.
(Choices 2 & 3) When splinting and analgesics fail to relieve CTS symptoms, direct injection of corticosteroids into the carpal tunnel may help.
(Choice 5) For CTS symptoms resistant to conservative interventions, or if hand weakness and thenar muscle atrophy progresses, then open or endoscopic surgical decompression of the carpal tunnel is indicated.

214. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old woman, gravida 2, para 1, at 12 weeks gestation comes to the physician because of a dark brown vaginal discharge. She had a mild brown vaginal discharge 3 weeks ago, which resolved without any intervention. She noticed similar discharge again two days ago. For the past two weeks, she has not had nausea or breast tenderness, which she used to have before. She does not use tobacco, alcohol or drugs. Her temperature is 37.0 °C (98.7 °F), blood pressure is 110/60 mmHg, pulse is 85/min and respirations are 15/min. Physical examination shows a soft uterus and a closed cervix. Feta l heart tones are not present. Which of the following is the most appropriate next step in management?

1. Quantitative β-hCG measurement
2. Pelvic ultrasonography
3. Chorionic villous sampling
4. Check PT/INR and PTT
5. Reassurance and routine follow-up

INCORRECT

The correct answer is 2.
The patient described has experienced a spontaneous abortion, which is defined as fetal demise before the 20th week of gestation and with a fetus weighing less than 500 grams. There are numerous forms of spontaneous abortion; the form described here is a missed abortion. Missed abortion is characterized by fetal demise with retained products of conception (fetus, placenta, etc.) and a closed
cervix. Characteristically, patients with a missed abortion will experience a loss of their pregnancy symptoms (i.e. decreased nausea and breast tenderness) and some brown discharge may be noted following fetal demise. The most appropriate next step in making the diagnosis of a spontaneous abortion is a transvaginal ultrasound to document the presence of intrauterine products of conception and to attempt to visualize motion of the fetal heart.
(Choice 1) Quantitative β-hCG measurement can continue to be elevated following a spontaneous abortion with retained products of conception.
(Choice 3) Chorionic villous sampling is a procedure used to obtain fetal tissue for genetic analysis. It is typically used to diagnose chromosomal abnormalities.
(Choice 4) Checking the PT/INR and PTI is appropriate if DIC is suspected, and DIC may occur in the setting of a missed abortion with prolonged retention of the products of conception.
(Choice 5) Reassurance and routine follow-up are not indicated until fetal well-being has been established by a transvaginal ultrasound that indicates size in agreement with dates, fetal motion and I or fetal heart movement.

215. Question **1 points**

Category: Obstetrics & Gynaecology

A 31-year-old primigravid woman at 35 weeks' gestation comes to the physician complaining of pain and tingling in the first three fingers of her right hand. She has had these symptoms on and off for the past 2 weeks. She has no history of trauma to the arm, wrist, or hand. She has had an otherwise uncomplicated prenatal course. Examination, including complete neurologic examination, is unremarkable. Which of the following is the most likely diagnosis?

1. Carpal tunnel syndrome
2. Cerebrovascular accident
3. Malingering
4. Seizure disorder
5. Wrist fracture

INCORRECT

The correct answer is 1.
This patient presents with a history that is most consistent with carpal tunnel syndrome. The carpal tunnel runs along the underside of the wrist. Through this “tunnel” run the median nerve and flexor tendons. In pregnancy, the size of the carpal tunnel is reduced secondary to weight gain and edema. With this reduction in size, there is an increased likelihood of compression of the median nerve, resulting in pain, numbness, or tingling in the distribution of the nerve. This distribution includes the thumb, index, and middle fingers and the palmar surface of the radial side of the ring finger. Treatment is with a wrist splint to keep the wrist in neutral position. In severe cases, surgical decompression may be necessary.
(Choice 2) usually does not present with symptoms along only one nerve and with a normal neurologic examination. This condition is also very unlikely in a young, pregnant patient.
(Choice 3) should never be assumed as a principal diagnosis. This patient has findings consistent with carpal tunnel syndrome.
(Choice 4) are highly unlikely to present with pain and tingling along the distribution of the median nerve.
(Choice 5) could cause pain and tingling in the hand. However, this patient has no history of trauma to the wrist, and a more likely diagnosis is carpal tunnel syndrome.

216. Question **1 points**

Category: Obstetrics & Gynaecology

A 27-year-old woman, gravida 2, para 1, at 12 weeks gestation comes to the physician because of a dark brown vaginal discharge. She had a mild brown vaginal discharge 3 weeks ago, which resolved without any intervention. She noticed similar discharge again two days ago. For the past two weeks, she has not had nausea or breast tenderness, which she used to have before. She does not use tobacco, alcohol or drugs. Her temperature is 37.0 °C (98.7 °F), blood pressure is 110/60 mmHg, pulse is 85/min and respirations are 15/min. Physical examination shows a soft uterus and a closed cervix. Feta l heart tones are not present. Quantitative β-hCG level is similar to her previous value, which was obtained 4 weeks ago. Pelvic ultrasonogram reveals absent fetal cardiac activity and small gestational sac. Coagulation studies are within normal limits. Which of the following is the most appropriate next step in management?

1. Serial β-hCG monitoring
2. Dilatation and curettage
3. Hospitalization and bed rest
4. Methotrexate therapy
5. Oxytocin infusion

INCORRECT

The correct answer is 2.

The diagnosis of a missed abortion can be confirmed by transvaginal ultrasound as described in the question stem. In this case, documenting the absence of fetal heart movement on ultrasound is the most significant indicator that the fetus has expired. The mother's coagulation studies are within normal limits. This is reassuring as retained products of conception (POC) can rarely cause a coagulopathy. The appropriate treatments in this setting all involve ensuring that there is complete elimination of the POC from the uterus. This can be accomplished surgically with a dilation and curettage, medically with misoprostol or mifepristone and expectantly by simply monitoring the mother to ensure that the POC eliminate naturally, which does occur in the majority of cases in time.

(Choice 1) Serial β-hCG monitoring will show a downward trend to normal following death of the fetus, but this intervention will not directly address the retained POC.

(Choice 3) Hospitalization and bed rest is not necessary as the fetus is not viable. Conservative management can be carried out with the patient at home with regular clinical follow-up and transvaginal
ultrasound to ensure complete natural evacuation of the uterus.

(Choice 4) Methotrexate therapy is used in some cases of early ectopic pregnancy as an abortifacient due to its specificity for rapidly dividing cells. The fetus in this case is dead, and methotrexate would not facilitate elimination of the POC from the uterus. A dead fetus is, in fact, a contraindication to the use of methotrexate.

(Choice 5) Oxytocin infusion would stimulate uterine contractions and likely expel the retained fetus, but this can more readily be accomplished with vaginal misoprostol without systemic effects and the additional invasiveness of an intravenous catheter.

217. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old woman comes to the physician seeking advice regarding contraception. She has no medical g; problems and takes no medications. She was fitted for a diaphragm earlier in the day. She asks the physician when the diaphragm should be removed from the vagina after intercourse. Which of the following is the correct response?

1. Immediately after intercourse
2. 1 hour after intercourse
3. 6 hours after intercourse
4. 12 hours after intercourse
5. 24 hours after intercourse

INCORRECT

The correct answer is 3.

The diaphragm is a barrier form of contraception. It is a dome made of rubber or latex that covers the cervix when placed correctly. Correct placement means that the most posterior portion is placed into the posterior vaginal fornix and the most anterior portion lies immediately below the urethra in close proximity to the pubic symphysis. It should be used in conjunction with a spermicidal lubricant; the lubricant should be placed along the surface of the diaphragm that is closest to the cervix. The diaphragm should be placed prior to the first episode of intercourse. If a second coital episode takes place, then additional spermicide should be used. After intercourse, the diaphragm should be left in for 6 hours to allow for complete immobilization of sperm. The diaphragm should be taken out in 6 hours or, at most, the next morning so as to avoid the risk of toxic shock syndrome, which has been described following the use of the diaphragm. The diaphragm is a form of contraception that requires a highly motivated patient. With correct use, it is roughly 98% effective at preventing pregnancy. In addition, the diaphragm must be fitted correctly to work properly. Sizes range from 60 to 105 mm, but most woman fall into the 70-80 mm range. The main side effect is bladder irritation with the risk of developing cystitis.

(Choices 1 & 2) The diaphragm should not be removed immediately after intercourse or 1 hour after intercourse. It should be left in for 6 hours to ensure that the sperm are completely immobilized. Removing the diaphragm too soon after intercourse runs the risk of allowing still viable sperm to reach the cervix, continue up the female reproductive tract, and fertilize the ovum.

(Choices 4 & 5) The diaphragm should not be removed 12 hours or 24 hours after intercourse. Leaving the diaphragm in this long increases the risk of infection, particularly bladder infections and possibly toxic shock syndrome. Toxic shock syndrome is typically associated with tampon use and toxins produced by Staphylococcus aureus; however, there have been reports associating toxic shock syndrome with extended placement of the diaphragm.

218. Question **1 points**

Category: Obstetrics & Gynaecology

A 26-year-old woman, gravida 2, para 1 at 28 weeks' gestation, comes to the physician for a follow-up ultrasound after a previous ultrasound demonstrated a marginal placenta previa. The present ultrasound shows complete resolution of the marginal previa, but the fetus is noted to be in breech presentation. The patient has otherwise had an unremarkable prenatal course. She has no medical problems and has never had surgery. She takes prenatal vitamins and is allergic to sulfa drugs. Assuming that the fetus stays in breech presentation, when should an external cephalic version be attempted?

1. After 30 weeks

2. After 33 weeks
3. After 37 weeks
4. After 40 weeks
5. After 42 weeks

INCORRECT

The correct answer is 3.

External cephalic version is a procedure in which the physician manually rotates the fetus from a breech to a vertex presentation with pressure applied on the maternal abdomen. It is usually performed after 37 weeks' gestation because of some of the risks of the procedure. One risk is that the successfully verted fetus will revert back to its breech position. This is more likely if the procedure is performed prior to 37 weeks. Also, there is a risk that fetal distress from cord compression or placental abruption will occur during the procedure, necessitating cesarean delivery. If the procedure is attempted prior to 3 7 weeks, there is a risk of delivering a premature fetus. Finally, about 5% of women will have a fetal to maternal transfusion during the procedure; therefore, Rh-negative women should be given RhoGAM™.

(Choices 1 & 2) Performing the procedure after 30 or 33 weeks could lead to iatrogenic prematurity or a spontaneous reversion to the breech position as discussed above.

(Choices 4 & 5) Waiting until after 40 or 42 weeks would not be correct management. The later in gestation that version is attempted, the more likely it is to fail, as the breech becomes more deeply engaged with advancing gestation. Furthermore, by 40 or 42 weeks many of the patients with breech fetuses will have already gone into labor.

219. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old woman, gravid a 1, para 0, at 36 weeks gestation comes to the physician because of diffuse headache, blurry vision and epigastric pain. She has no previous history of hypertension, renal disease or neurologic disease. Her mother has a history of migraine headaches. Her temperature is 37.2 °C (98.9 °F), blood pressure is 200/126 mmHg and pulse is 80/min. Physical examination shows bilateral lower extremity edema. Deep tendon reflexes are exaggerated. Laboratory studies show:

Blood urea nitrogen (BUN): 23 mg/dl
Serum creatinine: 1.6 mg/dl
Blood glucose: 98 mg/dl

Urinalysis

Protein: 4+
Blood: negative
Glucose: negative
WBC: 1-2/hpf
RBC: 1-2/hpf
Casts: none

Fetal heart tones are heard by Doppler. While evaluating her, she suddenly develops generalized tonic-clonic convulsions. Which of the following is the most accurate diagnosis of this new event?

1. Hypertensive encephalopathy
2. Uremic encephalopathy
3. Viral encephalitis
4. Eclamptic seizures
5. Brain abscess

INCORRECT

The correct answer is 4.

This patient was admitted to the hospital because she has severe preeclampsia, which subsequently evolved to eclampsia with the development of tonic-clonic seizures. Severe preeclampsia is defined as a BP greater or equal to 160/110 and the presence of one or more of the following signs:

1. Oliguria (< 500mU24hr)
2. Altered consciousness, headache, scotoma or blurred vision
3. Pulmonary edema or cyanosis
4. Epigastric or right upper quadrant pain
5. Significant thrombocytopenia
6. Microangiopathic hemolysis
7. Altered liver function tests
8. Elevated serum creatinine levels
9. IUGR, or oligohydramnios.

Patients with severe preeclampsia are at greater risk of developing eclampsia. However, 25% of eclamptic patients have a background of only mild disease. In eclampsia, cerebral vasospasm results in cerebral hypoxemia and generalized tonic-clonic seizures. 25% of cases of eclampsia occur before labor, 50% occur during labor and 25% occur following delivery. Increased reflex irritability is a worrisome sign in patients with preeclampsia and it usually heralds the occurrence of seizures.

(Choice 1) Eclampsia is a specialized subset of hypertensive encephalopathy that occurs in the setting of preeclampsia. Hypertensive encephalopathy in general is characterized clinically by headache, nausea and vomiting, visual disturbances and seizures.

(Choice 2) Uremic encephalopathy is unlikely as this patient's renal function is nearly normal.
(Choice 3) Viral encephalitis typically presents with new-onset psychiatric symptoms, seizures and cognitive and motor deficits.
(Choice 5) Brain abscess may present with headache and seizures. Focal neurologic deficits are also commonly observed, and hypertension and proteinuria are not typical features.

220. Question **1 points**

Category: Obstetrics & Gynaecology

A 23-year-old woman complains of breast pain two days after delivering her first child. The delivery was complicated by mild postpartum bleeding. On exam, both breasts are tense, warm, and tender to touch. Her blood pressure is 130/70 mmHg, heart rate is 100/min, and temperature is 99.4 °F (37.4 °C). What is the most likely diagnosis?

1. ○ Mastitis
2. ○ Breast abscess
3. ○ Breast engorgement
4. ○ Plugged ducts
5. ○ Superficial vein thrombosis

INCORRECT

The correct answer is 3.

This woman has breast engorgement, common in the first 24 to 72 hours after childbirth secondary to milk accumulation. While it may occur at any point during breast feeding, it is especially common early in the postpartum period when milk production is particularly robust. Symptoms include breast fullness, tenderness, and warmth. It typically peaks 3 to 5 days postpartum and improves spontaneously in most patients. Cool compresses, acetaminophen, and NSAIDs may be used for symptom control.
(Choice 1) Mastitis is a breast infection that causes unilateral breast pain with an isolated firm, tender, erythematous area accompanied by fever greater than 38 .3°C. It is distinguished from plugged ducts by the presence of fever. Anti-staphylococcal agents are first-line therapy. This patient has bilateral, not unilateral, symptoms, which would be unusual for mastitis .
(Choice 2) Breast abscesses are rare and present similarly to mastitis but with a palpable, fluctuant mass. They are treated with antibiotics and drainage.

(Choice 4) Plugged ducts present similarly to mastitis but lack fever or systemic symptoms. They are treated by improving the quality of breastfeeding. Persistently plugged ducts resulting in galactocele may be treated with aspiration.
(Choice 5) Superficial vein thrombosis can cause tenderness and localized erythema but is unlikely to cause bilateral tense breasts.

221. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old woman delivered a baby boy at 38 weeks gestation. The newborn has a small body size with microcephaly, hypoplasia of the distal phalanges of the fingers and toes, excess hair and a cleft palate. He weighs 2.5kg (5.51b). Further history or evaluation of the mother would most likely reveal which of the following:

1. Untreated syphilis
2. Phenytoin use
3. Alcohol abuse
4. Cocaine abuse
5. Azithromycin use

INCORRECT

The correct answer is 2.

The dysmorphic features this newborn is presenting with are typical of the fetal hydantoin syndrome. The fetal hydantoin syndrome can be caused by exposure to many anticonvulsant medications during fetal development. The most commonly associated medications include phenytoin and carbamazepine. The fetal hydantoin syndrome is characterized by midfacial hypoplasia, microcephaly, cleft lip and palate, digital hypoplasia, hirsutism and developmental delay.
(Choice 1) Signs of congenital syphilis that would be present following birth include rhinitis (snuffles), hepatosplenomegaly and skin lesions. Later findings include interstitial keratitis, Hutchinson teeth, saddle nose, saber shins, deafness and central nervous system involvement.
(Choice 3) Fetal alcohol syndrome, like fetal hydantoin syndrome, is characterized by midfacial hypoplasia, microcephaly and stunted growth. CNS damage, which may manifest as hyperactivity, mental retardation or learning disability is also typical. Cleft palate and excess hair are not typical.
(Choice 4) Cocaine abuse can increase the risk of placental abruption, which itself may cause fetal loss or CNS dysfunction in the infant due to hypoperfusion in utero.

(Choice 5) Azithromycin use is safe during pregnancy. It is a category B agent.

222. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old, gravid a 3, para 2 woman at 35 weeks gestation comes to the hospital because of regular and painful uterine contractions occurring every 5 – 6 minutes. She also has continuous leakage of clear fluid from her vagina that started 10 hours earlier. She has chronic hypertension and was prescribed methyldopa throughout pregnancy but has been noncompliant. She also has a history of drug abuse and has missed two previous antenatal appointments. Her temperature is 37.0 °C (98.7 °F), blood pressure is 160/100 mmHg, pulse is 80/min and respirations are 16/min. Sterile speculum examination shows pooling of amniotic fluid in the vagina; the cervix is 80% effaced and 3 cm dilated. Ultrasound shows a small for gestational age fetus in the vertex presentation with a decreased amniotic fluid index. Feta l heart monitoring shows repetitive late decelerations. Uterine contractions are now occurring every 4 minutes. Which of the following is the most appropriate next step in management?

1. Augmentation of labor
2. Tocolysis
3. Cesarean section
4. Betamethasone IM
5. Expectant management

INCORRECT

The correct answer is 3.

In this case of preterm labor (labor before 37 weeks gestation), the fetus seems to be in distress judging by the decelerations in the fetal heart tracing, so delivery should be accomplished urgently. Moreover, the fetus is small for gestational age, probably as a result of the chronic hypertension and drug abuse of the mother, so it not likely to withstand the stress of a vaginal labor and delivery. Regardless of gestational age or the concern for prematurity, the fetus should be evacuated by the fastest means possible, an emergent cesarean section.

(Choice 1) The fetus is already in distress and augmentation of labor may expose it to further stress and hypoxia.

(Choices 2 & 5) The fetus is in distress and there is no benefit in leaving it in utero. The fetus will benefit most from prompt delivery, which will remove it from the intrauterine environment that is presently insufficient to maintain adequate fetal oxygenation.

(Choice 4) Corticosteroid treatment is not proven to have a benefit after 34 weeks gestation; its use is limited to the period between 24 and 34 weeks. Additionally, corticosteroids require 24 -48 hours to have maximum benefit on fetal lung maturity, and this fetus requires an urgent delivery.

223. Question **1 points**

Category: Obstetrics & Gynaecology

Four hours ago, a 28-year-old woman, gravida 1, para 0, at 38 weeks' gestation was admitted to the labor and delivery suite. On admission, she had regular uterine contractions occurring every 2-3 minutes, a dilation of 4 cm on cervical examination, effacement of 80%, and blood pressure of 115/75 mm Hg. The fetus is in longitudinal lie and cephalic presentation with an estimated weight of 3,500 g (7 lb 11 oz) by abdominal palpation. Her prenatal course was characterized by first-trimester bleeding that spontaneously resolved. Her blood pressure (BP) has gradually increased over the past 4 hours; it is now sustained at 150/95 mm Hg. Her patella deep tendon reflexes are brisk, but she has no clonus. A urine dipstick test shows 2+ albumin. Administration of which of the following agents is indicated as the next step in management?

1. Phenobarbital
2. Diazepam
3. Magnesium sulfate
4. Diphenylhydantoin
5. Magnesium gluconate

INCORRECT

The correct answer is 3.

This patient meets two criteria for mild preeclampsia: sustained blood pressure elevation (≥ 140/90) developing after 20 weeks' gestation, along with significant proteinuria. At term, the goal of management with mild preeclampsia is prompt delivery, so induction of labor is appropriate. Patients with preeclampsia, however, are also at risk for progressing to eclampsia, which is characterized by generalized seizures. Prevention of seizures is a crucial aspect of the care of any woman with a hypertensive disorder of pregnancy.

(Choices 1,2 & 4) Phenobarbital, diazepam, and diphenylhydantoin are standard anticonvulsant medications, but are not used primarily for seizure prophylaxis in preeclampsia. Randomized, controlled head-to-head studies show that magnesium sulfate is superior to these standard anticonvulsants in prevention as well as treatment of eclamptic seizures.

(Choice 5) has no anticonvulsant activity.

224. Question **1 points**

Category: Obstetrics & Gynaecology

A 32-year-old Hispanic woman presents to the emergency department complaining of heavy vaginal bleeding. Her temperature is 37.0 C (98.6 F), blood pressure is 80/50 mm Hg, pulse is 110/min, and respirations are 18/min. Her abdomen is soft, nontender and nondistended. Her pelvic examination reveals approximately 200 mL of clotted blood in the vagina, an open cervical os with tissue protruding from it, and a 10-week-sized, non tender uterus. Leukocyte count is 9000/mm^3, hematocrit is 22%, and platelet count is 275,000/mm^3Quantitative hCG is 100,000 mIU/L (normal: 5-200,000 mIU /L). Pelvic ultrasound shows echogenic material within the uterine cavity consistent with blood or tissue, no adnexal masses, and no free fluid. No viable pregnancy is seen. Which of the following is the most appropriate next step in management?

1. Discharge to home
2. Culdocentesis
3. Dilation and evacuation
4. Laparoscopy
5. Laparotomy

INCORRECT

The correct answer is 3.

This patient has an incomplete abortion at roughly 10 weeks. We know that this is the diagnosis from a number of dues. Her os is open and she has tissue protruding from it. She has an hCG value that is consistent with a 10-week gestation (100,000 mIU/L), and her uterus is 10-weeksized on examination. In her case, this abortion is causing her to lose a significant amount of blood, as evidenced by her tachycardia, low blood pressure, the large amount of dot in the vagina, and the low hematocrit. The most appropriate management for an incomplete abortion at 10 weeks with bleeding causing hemodynamic compromise is to evacuate the contents of the uterus with a dilation and evacuation. This will help to stop the bleeding by allowing the uterus to contract fully.

(Choice 1) would not be appropriate in this case because the patient has active bleeding, is hemodynamically unstable, and has a low hematocrit (22%). Delaying treatment with observation in this case might lead to a further drop in the hematocrit, further hemodynamic instability, and the eventual need for a blood transfusion with its associated risks and complications.

(Choice 2) is a procedure used in the diagnosis of ectopic pregnancy, in which a needle is placed into the posterior cul-de-sac to determine whether there is non-clotting blood there. Ultrasound has almost completely replaced culdocentesis in the diagnosis of ectopic pregnancy.
(Choice 4) would not be appropriate in this case. It is true that in a pregnant woman with unstable vital signs and evidence of blood loss, the physician must think about ectopic pregnancy first. In this case, however, the diagnosis of incomplete abortion is certain enough that the risks of laparoscopy would outweigh the benefits. Several things make the diagnosis of ectopic pregnancy very unlikely here. First, the hCG is 100,000 mIU/L; most ectopic pregnancies do not reach this level. Second, the uterus is 10-week-size; most ectopic pregnancies do not lead to uterine growth that is consistent with the dates of the pregnancy. Third, there is no evidence of ectopic pregnancy on the ultrasound. Ultrasonic evidence of ectopic pregnancy includes an adnexal mass, free fluid in the pelvis, and no intrauterine gestational sac.
(Choice 5) would not be appropriate in this case for the same reasons mentioned with regard to laparoscopy. When the bleeding is coming from the uterus itself from an incomplete abortion, entering the peritoneal cavity (for laparoscopy or laparotomy) will not provide a remedy for the hemorrhage.

225. Question **1 points**

Category: Obstetrics & Gynaecology

A 37-year-old obese, hypertensive female comes to the physician because of intermenstrual bleeding and heavy menses. Endometrial biopsy shows “complex hyperplasia without atypia.” She has two young healthy children and does not want more children in the future. Which of the following is the most appropriate next step in management?

1. Hysterectomy
2. Cyclic progestins
3. Low dose oral contraceptives
4. Estrogen replacement
5. Raloxifene

INCORRECT
The correct answer is 2.
Premenopausal women with simple or complex hyperplasia without atypia respond to therapy with cyclic progestins. All patients should undergo repeat biopsy after 3-6 months of

treatment. The risk of progression to endometrial cancer in patients with complex hyperplasia without atypia is low (1-2%), and therefore even if this patient does not want more children, hysterectomy is not warranted.
(Choice 1) The risk of progression to endometrial cancer in patients with complex hyperplasia with atypia is high (30%). Therefore, in premenopausal women diagnosed with complex hyperplasia with atypia who have completed child bearing, total hysterectomy is the treatment of choice. In women who would like to preserve fertility and in those who are considered poor surgical candidates, cyclic progestins with repeat biopsy in 3-6 months is the appropriate initial management.
(Choice 3) A low dose oral contraceptive pill (OCP) is appropriate for prevention of endometrial hyperplasia in patients with anovulatory conditions such as polycystic ovarian syndrome. However, once endometrial hyperplasia has occurred, OCPs are not sufficient therapy .
(Choice 4) Estrogens will only aggravate her condition.
(Choice 5) Raloxifene is a SERM (selective estrogen receptor modulator) which is used in the treatment of osteoporosis. It has no role in treatment of endometrial hyperplasia.

226. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman, gravid a 3, para 2, at 37 weeks gestation is rushed to the emergency department because of gushing bright red vaginal bleeding. She has had no uterine contractions. She does not take any medications and has no history of trauma. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 12th week of gestation showed an intrauterine gestation consistent with dates. Her temperature is 37.0 °C (98.6 °F), blood pressure is 120/80 mmHg, pulse is 80/min and respirations are 16/min. Ultrasonogram in the emergency department shows complete placenta previa. After initial resuscitation, bleeding is stopped. She is anxious and concerned about her baby. Which of the following is the most appropriate next step in management?

1. Prompt induction of labor
2. Emergency cesarean section
3. Scheduled cesarean section
4. Forceps delivery
5. Conservative management at home

INCORRECT

The correct answer is 3.
As in the clinical description of this case, placenta previa presents with painless vaginal bleeding in the third trimester with 2/3 of cases presenting at 30-weeks of gestation. Ultrasound is the method of choice for diagnosis. Ultrasonography diagnoses placenta previa with an accuracy of 95% with transabdominal ultrasonography and virtually 100% with transvaginal ultrasonography. Pelvic examination is contraindicated in any patient with antepartum hemorrhage until placenta previa is ruled out by ultrasound .
The management of placenta previa depends on the gestational age of the fetus and the severity of the bleeding. If the mother is stable and the fetus is at term (as in this case), scheduled cesarean section is the treatment of choice. Until the cesarean section is performed, the patient must be monitored closely; her hematocrit should be followed and autologous blood made available. If the pregnancy is not yet term and the mother is stable, expectant management with close monitoring of the mother and fetus is the treatment of choice. At 36 weeks gestation, amniocentesis should be done in order to assess lung maturity. If the fetal lungs are mature, elective cesarean section can be performed.
(Choice 1) Induction of labor in this setting is dangerous as it will trigger uterine contractions and aggravate bleeding from a placenta previa.
(Choice 2) Emergency cesarean section is done in the case of extended or massive bleeding, regardless of gestational age. Most women with placenta previa respond well to conservative management and can be treated with elective cesarean section once stabilized.
(Choice 4) Using the forceps implies an advanced stage of labor, which would not be seen in a case of complete placenta previa.
(Choice 5) Since the risk of recurrent bleeding is high, management at home can be considered only in rare instances wherein the patient is stable, the fetal well being is ascertained and the patient's house is near the hospital. In the present case, the baby is at term and may be delivered, so there is no reason for the patient to go back home and risk further bleeding.

227. Question **1 points**

Category: Obstetrics & Gynaecology

A 20-year-old nulligravid woman comes to the physician because of abnormal menstrual periods. She states that menarche occurred at age 12. Since then, her menstrual period has occurred every 45 to 60 days, and has lasted for 5 days. A rough estimate of blood loss with each period is about 60 mL. She was on depot medroxyprogesterone acetate (DMPA or Depo Provera) for 2 years, from age 17 to 19; during the second year, she had no menstrual periods. Which of the following makes this patient's menstrual history abnormal?

1. Her cycle lasts 45 to 60 days
2. Her menses lasts 5 days
3. Her menstrual blood loss is 60 mL

4. Menarche was at age 12
5. She had no menses for 1 year on DMPA

INCORRECT

The correct answer is 1.

A normal menstrual cycle lasts 28 +/- 7 days. This patient has a cycle that lasts from 45 to 60 days, which is considered oligomenorrhea. Several processes can cause oligomenorrhea, including polycystic ovarian syndrome (PCOS), thyroid abnormalities, diabetes, and medications. Furthermore, a woman can be pregnant and think she has oligomenorrhea because of intermittent first or second trimester bleeding. Therefore, a pregnancy test should be checked in a woman of reproductive age with irregular bleeding.

(Choice 2) is normal. The average duration of the menstrual flow is from 3 to 7 days.

(Choice 3) is normal. The average amount of blood lost during a normal menstrual period is from 40 to 80 mL.

(Choice 4) Menarche, or the onset of first menses, is dependent on a number of factors, including geographic location, body weight, and psychological issues. In the U.S., the mean age of menarche is approximately 12 to l3 years.

(Choice 5) Approximately 50% of women on depot medroxy-progesterone acetate (DMPA) for more than 1 year will report amenorrhea. This likely is the result of the atrophy of the endometrial lining that occurs with this drug.

228. Question **1 points**

Category: Obstetrics & Gynaecology

A woman comes to the physician's office stating that she has never had a menstrual period, nor has she ever been sexually active or ever used contraceptive agents. She started breast development at age 10 years and started her growth spurt at age 11 years. She states she is not on any medications. She graduated from high school a year ago and is a nursing student at the local university. Physical examination reveals normal female breast development, but no uterus can be palpated on pelvic and rectovaginal examination. The cause of her amenorrhea can best be discovered by testing for the serum level of which one of the following substances?

1. Follicle-stimulating hormone (FSH)
2. Luteinizing hormone (LH)
3. Prolactin
4. Testosterone
5. Progesterone

INCORRECT

The correct answer is 4.

Primary amenorrhea is defined as absence of menses by age 14 without breast development, or by age 16 with breast development. It can be classified into four groups based on the presence or absence of normal breast development and the presence or absence of a palpable uterus. This woman, with normal breast development but without a uterus, has either complete androgen insensitivity or müllerian agenesis. In the former syndrome, a genetic male has a congenital lack of androgen receptors and so the normal male levels of testosterone are unrecognized. Development takes place in a female direction. Breast development is a response to normal testicular estrogen production. Normal female hormonal status is associated with congenital uterine absence, including normal low female levels of testosterone. Thus, measurement of serum testosterone would be the most useful test for this patient.

(Choice 1) Follicle-stimulating hormone (FSH) determination is helpful for differentiating the cause of primary amenorrhea with absent breasts but uterus present. An elevated FSH level indicates absence of functional ovarian follicles, whereas a low FSH level indicates a hypothalamic–pituitary problem.

(Choice 2) Luteinizing hormone (LH) assay is not helpful because it normally fluctuates significantly during a normal menstrual cycle.

(Choices 3 & 5) Prolactin and progesterone levels do not contribute to the workup of primary amenorrhea.

229. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-oldwoman, gravida 1, para 1, is immediately status post a normal spontaneous vaginal delivery and normal third stage when she develops brisk bright red bleeding from the vagina. Her prenatal course was unremarkable. She has asthma, which worsened during the pregnancy. Ten years ago, she had a tonsillectomy. She takes a steroid and albuterol inhaler. She has no known drug allergies. Her temperature is 37.0 C (98.6 F), blood pressure is 100/70mm Hg, pulse is 115/min, and respirations are 16/min. Her abdomen is soft and nontender. Her uterus is soft and “boggy “to palpation. Pelvic examination reveals no evidence of a laceration. Which of the following treatments should be avoided in managing this patient’s postpartum hemorrhage?

1. Acetaminophen
2. IV hydration
3. Methylergonovine

4. Oxytocin
5. 15-methyl-prostaglandin $FM_{2\alpha}$ ($PGF_{2\alpha}$)

INCORRECT

The correct answer is 5.

Postpartum hemorrhage is an important cause of maternal morbidity and mortality in obstetrics. Postpartum hemorrhage is defined as blood loss in excess of 500 mL at vaginal delivery or 1000 mL at cesarean section. The main causes of postpartum hemorrhage are uterine atony and laceration. Other possible causes include retained placenta, coagulopathy, and uterine inversion. This patient has uterine atony, as indicated by the soft, "boggy" uterus on physical examination. The postpartum uterus should be firm and at the level of the umbilicus. The treatments for atony include oxytocin, methylergonovine, and $PGF_{2\alpha}$. However, $PGF_{2\alpha}$ is contraindicated in patients who have asthma, as it may increase airway resistance and exacerbate the condition.

(Choice 1) is not considered a treatment for postpartum hemorrhage. However, it should not necessarily be avoided either. This patient has no contraindication to the use of acetaminophen and, with her temperature, may benefit from its use.

(Choice 2) should be given in the case of a postpartum hemorrhage. Any patient experiencing significant blood loss should have IV access. IV hydration will allow this patient to maintain her intravascular volume and organ perfusion.

(Choice 3) should be given in the case of postpartum hemorrhage caused by uterine atony. It is a medication from the ergot family. Ergot drugs can cause vasoconstriction and should therefore be used with caution or avoided altogether in patients with hypertension.

(Choice 4) should be given for postpartum hemorrhage caused by uterine atony. Forty units oxytocin in IL crystalloid may be given as a rapid infusion (500 mL over 10 minutes). Oxytocin will help the uterus to contract and thus resolve the atony.

230. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman, gravida 2, para 2, comes to the physician for a yearly physical and birth control counseling. She is currently using the rhythm method of birth control, but has heard that this method has a high failure rate and would like to try a different method. Several of her friends use the intrauterine device (IUD), and she is wondering whether she could also use this method. Past medical history is significant for eczema. Past surgical history is significant for a right ovarian cystectomy2 years ago. Past gynecologic history is significant for multiple episodes of Chlamydia cervicitis and two episodes of pelvic inflammatory disease (PID), the most recent episode occurring 1 year ago. She takes acetaminophen for occasional tension headaches. She is allergic to

penicillin. She smokes one half pack of cigarettes per day. Physical examination is unremarkable. Which of the following would be the best recommendation for this patient regarding her birth control method?

1. "The IUD is absolutely contraindicated."
2. "The IUD is recommended."
3. "The IUD is recommended if cervical cultures are negative: "
4. "The oral contraceptive pill is absolutely contraindicated."
5. "The rhythm method is recommended."

INCORRECT

The correct answer is 1.

Active, recent, or recurrent sexually transmitted diseases (STDs) are considered an absolute contraindication to intrauterine device (IUD) use. This patient has a gynecologic history that is significant for multiple episodes of chlamydia cervicitis and two episodes of pelvic inflammatory disease (PID). In a patient with an IUD in place, these infections have an increased likelihood of causing significant morbidity and mortality. Many physicians consider even the risk for STDs (i.e., multiple sexual partners or sexual relations.es, with someone with multiple sexual partners) to be a contraindication to IUD use. The presence of such numerous and recent episodes of STDs would certainly make the IUD absolutely contraindicated for this patient. The IUD is contraindicated, not recommended **(Choice 2)**, for the reasons given above.

(Choice 3) The IUD would not be recommended if cervical cultures were negative for two reasons. First, cervical cultures have a high false negative rate. Therefore, even if the cultures are negative, it does not completely rule out an infection. Second, even if the cultures are truly negative this time, her recent history of multiple STDs places her at far too great a risk to be a candidate for the IUD. •

(Choice 4) The oral contraceptive pill is not absolutely contraindicated and therefore would not be a correct recommendation to make to this patient. The pill is absolutely contraindicated in women older than 35 who, smoke; however, this patient is 24 years old. She should certainly be encouraged to stop smoking, and smoking cessation advice and counseling should be offered to her..

(Choice 5) The rhythm method would not be a correct recommendation for this patient. Even with perfect use, the rhythm method has a failure rate of greater than 10%. Furthermore, because of the nature of the technique, the actual failure rate is significantly higher,-probably greater than 30%. The rhythm method is not recommended as a first-line birth control option.

231. Question **1 points**

Category: Obstetrics & Gynaecology

A 42-year-old woman, gravida 4, para 3, at 31 weeks' gestation comes to the labor and delivery ward because of contractions. The contractions started 3 hours ago and are now coming every 5 minutes. The patient has had no leakage of fluid. Examination reveals that her cervix is 2 cm dilated and 75% effaced. A previous cervical examination done 2 days ago during a prenatal visit showed her cervix to be long and closed. The fetal heart rate is in the 150s and reactive. The patient is started on IV magnesium sulfate and penicillin. Which of the following is the most appropriate additional pharmacotherapy for this patient?

1. Ampicillin
2. Dexamethasone
3. Gentamicin
4. Terbutaline
5. Tetracycline

INCORRECT

The correct answer is 2.

This patient has preterm labor. This diagnosis can be made on the basis of her regular contractions and cervical change. The magnesium sulfate is a tocolytic designed to quiet the uterus and halt the preterm labor. The penicillin is given to prevent group B streptococcal (GBS) disease of the newborn should the patient deliver. Dexamethasone should also be given to reduce the risk of respiratory distress syndrome (RDS), intraventricular hemorrhage (IVH), and perinatal mortality. A large amount of data has accumulated over the past 3 decades, demonstrating that antenatal corticosteroids are effective in the prevention of RDS, NH, and neonatal mortality. The two corticosteroids used are betamethasone and dexamethasone. They are similar in structure, have a half-life of approximately 72 hours, and cross the placenta in an active form.

(Choice 1) It is not necessary to add ampicillin to this patient's pharmacologic regimen. This patient is already on penicillin for GBS prophylaxis and further treatment with ampicillin is therefore not needed.

(Choice 3) should not be added to this patient's regimen. There is no evidence that this patient has chorioamnionitis, but if she did, she should be treated with gentamicin. However, in that case the fetus should also be delivered and tocolysis should not be given.

(Choice 4) should not be added to this patient's regimen. This patient is already on magnesium sulfate for tocolysis. The addition of another tocolytic would only place this patient at greater risk of complications.

(Choice 5) is not used during pregnancy because of its effects on fetal teeth and bone.

232. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old female presents to the physician's office for evaluation of infertility. Her menstrual periods are regular. She has mild chronic pelvic pain. Her husband's semen analysis is within normal limits. She has no history of sexually transmitted diseases in the past. Her temperature is 37.2 °C (98.9 °F), and her blood pressure is 120/72 mmHg. Physical examination shows a normal sized uterus and enlarged left adnexae. Ultrasonography shows a homogeneous mass on the left ovary, but is otherwise normal. Which of the following is the most likely diagnosis?

1. Endometriosis
2. Ovarian malignancy
3. Chronic pelvic inflammatory disease
4. Adenomyosis
5. Pelvic congestion syndrome

INCORRECT

The correct answer is 1.

Endometriosis is a benign condition where foci of endometrial glandular and stromal tissue are found in locations outside the uterus. These foci react to hormonal stimuli in the same manner as the endometrium does, and thus increase in size throughout the menstrual cycle and bleed when the hormonal stimuli is suspended. The most frequently affected sites are the ovaries, the peritoneal surfaces of the cul-de-sac, the broad and uterosacral ligaments and the rectovaginal septum, but any site including the bladder, intestine and skin may be involved though far less commonly.

Patients present most frequently with dysmenorrhea, dyspareunia (when the endometriomas are located in the cul-de-sac, the fornices or the uterosacral ligaments), dyschezia (pain on defecation), hematochezia, hematuria, and premenstrual or postmenstrual spotting. Endometriosis can also result in subfertility or infertility. Physical examination may reveal a tender adnexal mass or firm nodularity in the broad ligaments, the uterosacral ligament or in the cul-de-sac. Ultrasound examination may demonstrate homogenous endometriomas on the adnexae or within the peritoneal or pelvic regions. The diagnosis can only be made with certainty by laparoscopic examination of the pelvis and peritoneum.

(Choice 2) A malignancy of the ovary is a possible cause of infertility, but ovarian cancer is typically a disease of perimenopausal women. Additionally, this patient's clinical presentation is most typical of endometriosis.

(Choice 3) Chronic PIO can cause adhesions within the uterus or the uterine tubes and may be responsible for chronic pelvic pain and infertility. The patient does not have a history of PIO and has no fever or any other systemic symptoms consistent with this diagnosis.

(Choice 4) Adenomyosis is the presence of endometrial glands in the uterine muscle. It occurs most frequently in women above 40 and typically presents with secondary dysmenorrhea and menorrhagia. The physical examination reveals an enlarged and generally symmetrical uterus.
(Choice 5) Pelvic congestion syndrome is a cause of chronic pelvic pain but would not cause ovarian abnormalities.

233. Question **1 points**

Category: Obstetrics & Gynaecology

A 34-year-old primigravida develops severe postpartum bleeding requiring aggressive volume resuscitation and transfusion of 5 units of packed red blood cells. Her pregnancy was complicated by mild hypertension and trace proteinuria that was treated with low-dose methyldopa. Her mother suffered from premature menopause and severe osteoporosis. Seven days after giving birth, she has failed to lactate. Her urinalysis is insignificant and her blood pressure has ranged from 95 to 110 mmHg systolic and 69 to 75 mmHg diastolic. Fundoscopy shows no retinal changes. Which of the following is most likely deficient in this patient?

1. Inhibin
2. Progesterone
3. Aldosterone
4. Prolactin
5. Oxytocin

INCORRECT
The correct answer is 4.
This patient had a severe postpartum hemorrhage and is unable to lactate several days after delivery. This is concerning for Sheehan's syndrome. Under normal conditions, the postpartum fall in estrogen and progesterone combine with nipple stimulation by a suckling child to increase prolactin concentrations and promote lactation. However, women who have massive postpartum hemorrhage may develop anterior pituitary necrosis, or Sheehan's syndrome, due to pituitary hypoperfusion. Hormones secreted from the anterior pituitary include prolactin, thyroid stimulating hormone (TSH), and follicle stimulating hormone (FSH). Failure of lactation due to prolactin deficiency is the classic initial presentation of Sheehan's syndrome. Other complications resulting from anterior pituitary failure include hypothyroidism, amenorrhea, genital atrophy, loss of pubic and axillary hair, and fatigue.

(Choice 1) Inhibins are made by the granulosa cells of ovarian follicles and exert feedback inhibition of pituitary FSH release. An inhibin deficiency would not be expected to affect postpartum lactation.
(Choice 2) Progesterone levels normally fall in the postpartum period and contribute to the disinhibition of prolactin's lactogenic effects. A postpartum progesterone deficiency would not prevent lactation.
(Choice 3) Primary adrenal insufficiency due to adrenal hemorrhage has been associated with postpartum hemorrhage. Adrenal failure would worsen hypotension and potentially increase the risk of pituitary necrosis, but it would not directly inhibit this patient's ability to lactate.
(Choice 5) Oxytocin causes contraction of mammary gland myoepithelial cells and promotes milk ejection. A deficiency of this hormone might inhibit milk let down but would not significantly decrease milk production.

234. Question **1 points**

Category: Obstetrics & Gynaecology

A 48-year-old Caucasian woman comes to the physician because of uterine prolapse. She feels as if her uterus is "falling out" and complains of a constant sensation of pressure. She has asthma and has never had surgery. She uses an albuterol inhaler and has no allergies to medications. Examination shows a significant uterine prolapse, with the uterus in descent to the level of the introitus. After a full preoperative evaluation, the decision is made to perform a vaginal hysterectomy. On the day of the operation, which of the following is the most appropriate pharmacotherapy regimen?

1. ○ No medications are needed
2. ○ Antibiotics 30 minutes prior to surgery
3. ○ Beta blocker 30 minutes prior to surgery
4. ○ Antibiotics prior to dosing
5. ○ Antibiotics 6 hours after the surgery

INCORRECT

The correct answer is 2.

Antibiotic prophylaxis is important for certain operations in obstetrics and gynecology. Vaginal hysterectomy is one gynecologic procedure for which prophylactic antibiotics have been proven to be of benefit in the prevention of infection. The goal of antibiotic prophylaxis in a vaginal hysterectomy is to have the antibiotics present in the tissue prior to the opening of the

vaginal cuff, because vaginal organisms can gain entrance to the peritoneal cavity at that point. When antibiotics are administered 30 minutes prior to surgery, there is sufficient time for the antibiotics to reach the appropriate tissues and provide prophylaxis.
(Choice 1) No medications are needed during many procedures. However, during vaginal hysterectomy, the risk of infection is increased compared with certain other procedures because there are numerous bacteria within the vagina that are not completely eradicated, even with an aggressive vaginal preparation prior to surgery.
(Choice 3) would not be indicated in this patient. First, she has no cardiac history. Second, she has asthma; therefore, beta blockers would not be recommended.
(Choice 4) are not routinely indicated. Ill certain cases, e.g., a long operative time, a second dose of antibiotics should be given. Typically, however, one preoperative dose of antibiotics is sufficient.
(Choice 5) would not be indicated. A postoperative antibiotic dose is sometimes needed for endocarditis prophylaxis in patients with cardiac disease. This patient has no cardiac disease.

235. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old female and her husband come to the physician's office for evaluation of infertility. They have not been able to conceive after 12 months of frequent intercourse without contraception. She has no other medical problems and takes no medication. Physical examination shows an obese woman with excess thick hair over her chin and along the linea alba of the lower abdomen. There is no increase in muscles mass. When asked about the excess hair, she states that she has had it for a long time. Serum testosterone levels are elevated. Which of the following is the most likely cause of her infertility?

1. Abnormal cervical mucus
2. Luteal phase defect
3. Impaired oocyte transport
4. Impaired zygote implantation
5. Anovulation

INCORRECT

The correct answer is 5.

The patient described is most likely suffering from polycystic ovary syndrome (PCOS), which is characterized by anovulation, signs of androgen excess and ovarian cysts. PCOS results from abnormal GnRH secretion that stimulates the pituitary to secrete excessive luteinizing

hormone (LH) and insufficient follicle stimulating hormone (FSH). Excess LH stimulates excess androgen production by ovarian theca cells resulting in hirsutism, male escutcheon, acne and androgenic alopecia. Anovulation is caused in part by imbalances LH and FSH production and in part by insulin resistance in these patients. Anovulation in this condition can be associated both with amenorrhea and irregular menses occasionally complicated by menometrorrhagia.
(Choice 1) Abnormal cervical mucus can be a cause of infertility. In the setting of cervicitis, the mucus can become inflamed, thickened or modified in pH. All of these factors impede penetration of the cervical mucus by spermatozoa.
(Choices 2 & 4) A luteal phase defect indicates poor preparation of the endometrium for implantation due to a progesterone deficiency. Following ovulation, progesterone is produced in increased amounts by the corpus luteum.
(Choice 3) Impaired oocyte transport in the fallopian tube is commonly the result of previous pelvic inflammatory disease or endometriosis. Other uncommon causes of ciliary dysmotility may also play a role.

236. Question **1 points**

Category: Obstetrics & Gynaecology

A 93-year-old woman is sent to your office from the nursing home for evaluation of vaginal bleeding. She is a poor historian and history is provided by her caregiver. Per her caregiver, she has a history of cerebrovascular accident with residual weakness, myocardial infarction, hypertension, type 2 diabetes mellitus and chronic renal insufficiency. She has been wheelchair-bound and living in the nursing home since her stroke five years ago. She takes multiple medications. Her temperature is 37.2 °C (98.9 °F), blood pressure is 176176, pulse is 74/min and respirations are 14/min. She is awake, alert, and oriented to person, place and time. Physical examination reveals a friable, bleeding vaginal mass 3 cm in size, and a malodorous vaginal discharge. The remainder of the examination reveals left-sided spasticity and weakness. Biopsy of the mass reveals squamous cell carcinoma of the vagina that does not extend to the pelvic wall. CT scan of the abdomen and pelvis shows no evidence of metastasis. You call the patient's daughter, who is the power of attorney, and she requests that you do the best you can. Which of the following is the most appropriate next step in management?

1. Surgical resection
2. Radiation therapy
3. Combination chemotherapy
4. Biologic agent therapy
5. Send her to hospice

INCORRECT

The correct answer is 2.

This 93-year-old woman presents with a vaginal tumor that is identified as squamous cell carcinoma (SCC) on biopsy. SCC is the most common form of vaginal cancer, and risk for SCC of the vagina increases with age (most common in women >60 years of age). The most common symptoms are vaginal bleeding and malodorous vaginal discharge. Definitive diagnosis is made by biopsy. Treatment of vaginal cancer depends on staging. Stage I and II tumors (no extension to the pelvic wall and no metastases) which are less than 2 cm in size may be removed surgically, while stage I and II tumors which are greater than 2 cm in size are treated with radiation therapy. However, the point in this question is to recognize the best treatment modality given her age and co-morbid conditions. Even if her tumor is less than 3 cm in size she is a poor surgical candidate given her age and multiple medical problems. Radiation alone may be sufficient.

(Choice 1) Surgical therapy is the treatment of choice for isolated stage I and II vaginal tumors which are less than 2 cm in size.

(Choice 3) Combination chemotherapy is used for Stage III and IV tumors as well as tumors greater than 4 cm in size. Again, she may not be a good candidate for chemotherapy; radiation alone might be sufficient.

(Choice 4) Biologic agent therapy does not play a role in management of SCC of the vagina.

(Choice 5) It would be inappropriate to send this patient to hospice against the wishes of her power of attorney. Furthermore, the survival rates for Stage I and II vaginal cancers are high with radiation therapy.

237. Question **1 points**

Category: Obstetrics & Gynaecology

A 24-year-old woman, gravid a 2, para 1 , at 36 weeks' gestation is brought to the emergency department after passing out. She is drowsy and moaning, complaining of abdominal pain. Her husband accompanies her. He states that she has not experienced any trauma, but that she experienced the sudden onset of severe abdominal pain before she passed out. She has no significant past medical history. Her pregnancy has been uncomplicated thus far. She does not use tobacco, alcohol, or drugs. She takes supplemental vitamins, but no other medications. Her temperature is 36.9 °C (98.4 °F), blood pressure is 90/60 mm of Hg, and pulse is 130/min. Physical examination shows a cold and diaphoretic female. Examination shows a uterus consistent in size with a 36-week gestation; the cervical os is closed and no vaginal bleeding is noted. Which of the following is the most likely diagnosis?

1. Placenta previa
2. Abruptio placentae
3. Preeclampsia

4. Amniotic fluid embolism
5. Septic shock

INCORRECT

The correct answer is 2.

Abruptio placentae is the most likely diagnosis in this patient given her sudden onset of abdominal pain in the third trimester and the absence of trauma. There is no vaginal bleeding noted on exam in this patient, but the absence of hemorrhage does not rule out placental abruption. Bleeding is seen in 80% of placental abruptions, and in some cases bleeding may be retroplacental and not appear on vaginal exam. The most common risk factor for abruptio placentae is maternal hypertension. Other risk factors include cocaine abuse, trauma, excessive uterine distention, tobacco use, and previous placental abruption.

(Choice 1) Placenta previa presents with painless vaginal bleeding.

(Choice 3) Preeclampsia is associated with hypertension, proteinuria and edema.

(Choice 4) Amniotic fluid embolism usually occurs during amniocentesis or labor, and presents with respiratory failure and cardiac shock. Abdominal pain is not expected.

(Choice 5) Septic shock is unlikely without fever or any precipitating factors such as rupture of membranes or urinary tract infection.

238. Question **1 points**

Category: Obstetrics & Gynaecology

A 14-year-old girl s brought to the physician's office because of irregular menstrual periods. She had her menarche at age 13, and since then her periods have been irregular with the cycles varying from 3 to 6 weeks. She has no other symptoms. Physical examination is unremarkable. She has age appropriate secondary sexual characters. A urine pregnancy test is negative. Serum prolactin and thyroid stimulating hormone levels are normal. Administration of micronized oral progesterone results in withdrawal bleeding in 3 days. Which of the following most likely explains her irregular periods?

1. Marked estrogen deficiency
2. Insufficient gonadotropin secretion
3. Excess LH secretion
4. Marked androgen excess
5. Uterine adhesions

INCORRECT

The correct answer is 2.

Initial menstrual cycles in pubertal females are usually irregular and often anovulatory. This is due to immaturity of the developing hypothalamic-pituitary-gonadal axis that does not produce adequate quantities and proportions of the hormones (i.e. LH and FSH) required to induce ovulation. In the absence of ovulation, menstrual cycles lack their regular periodicity. The endometrium builds up under the influence of estrogen, but without the influence of progesterone, the cue to slough the endometrium is lacking and menstrual-like bleeding occurs due to estrogen breakthrough bleeding. Normally, progesterone is produced in increased amounts by the corpus luteum following ovulation, and withdrawal of this progesterone as the corpus luteum degenerates results in menses.

(Choice 1) Menses due to progesterone challenge would not occur in the setting of estrogen deficiency as estrogen is required to build up the endometrium.

(Choice 3) Excess LH secretion occurs in the polycystic ovary syndrome (PCOS).

(Choice 4) Marked androgen excess is also a feature of PCOS. Patients with androgen excess would exhibit signs of virilization such as hirsutism.

(Choice 5) Uterine adhesions are a cause of infertility and pregnancy loss, but would not cause irregular menstrual cycles. Causes of intrauterine adhesions include uterine instrumentation (i.e. during operative delivery) and endometriosis.

239. Question **1 points**

Category: Obstetrics & Gynaecology

A 29-year-old woman, gravida 2, para 0, comes for a routine prenatal visit. According to her history, she is at 16-weeks gestation. She had a first trimester miscarriage during her previous pregnancy. She does not take any vitamin supplementation. Vital signs are stable and physical examination is unremarkable. Initial laboratory studies show increased maternal serum α-fetoprotein (MSAFP) levels. Which of the following is the most likely cause of the abnormal laboratory finding?

1. Neural tube defect
2. Edward syndrome
3. Down syndrome
4. Omphalocele
5. Gestational age error

INCORRECT

The correct answer is 5.
Alpha-fetoprotein (AFP) is produced by the yolk sac and fetal liver and a certain amount of it crosses the placenta into the maternal circulation. Increased AFP levels are seen in the presence of neural tube defects, abdominal wall defects (gastroschisis, omphalocele), multiple gestation and inaccurate gestational age. The most common cause of an abnormally increased MSAFP is a gestational age error. After detecting increased MSAFP levels, the physician should first perform an ultrasound to detect the presence of any anomaly that may be seen by ultrasound, assess fetal size to determine if it agrees with dates and to identify possible multiple gestation. Amniocentesis may also be performed to identify the presence of neural tube defects. In the presence of a neural tube defect, amniotic fluid AFP and acetylcholinesterase will both be elevated.
(Choices 2 & 3) MSAFP is decreased in Edward syndrome and in Down syndrome. These conditions are screened for using the quadruple screen. Down syndrome will cause low MSAFP, low estriol, elevated β-hCG, and elevated inhibin A level. A typical profile for Edward syndrome shows low MSAFP, low estriol, very low β-hCG, and normal inhibin A level.

240. Question **1 points**

Category: Obstetrics & Gynaecology

A 19-year-old gravida 2, para 1 woman presents at her first prenatal visit complaining of a rash, hair loss, and spots on her tongue. Her temperature is 37.0 C (98.6 F), blood pressure is 112/74 mm Hg, pulse is 68/min, and respirations are 14/min. Physical examination is significant for a maculopapular rash on her trunk and extremities, including her palms and soles. She has “moth-eaten” alopecia and white patches on her tongue. Her uterus is 10-weeksize, which is consistent with her dating by last menstrual period. The rest of her examination is unremarkable. RPR and MHA-TP are positive. Which of the following is the most appropriate pharmacotherapy?

1. Clindamycin
2. Gentamicin
3. Nitrofurantoin
4. Penicillin
5. Tetracycline

INCORRECT
The correct answer is 4.
This patient has syphilis, a disease caused by Treponema pallidum, a spirochete, as evidenced by the positive rapid plasma reagin (RPR) test, and microhemagglutination assay for antibodies to T. pallidum (MHA-TP). Primary syphilis is characterized by a painless ulcer,

called a chancre, typically found on the vagina or cervix. Untreated primary syphilis can progress to secondary syphilis, which is characterized by “moth-eaten” alopecia, a maculopapular skin rash involving the palms and soles, and white patches on the tongue. Tertiary syphilis is characterized by gumma formation, cardiac lesions, and CNS abnormalities. Syphilis in pregnancy is associated with increased rates of preterm delivery, intrauterine growth retardation, and fetal demise. However, the most devastating complication of syphilis in pregnancy is congenital infection of the fetus, which can lead to severe effects on fetal morbidity and mortality. The key to preventing congenital infection is adequate treatment of the mother. The drug of choice for syphilis is penicillin.
(Choice 1) is effective for some gram-positive and anaerobic infections. It does not treat syphilis and would not be indicated for this patient.
(Choice 2) is mostly used for gram negative infections. It does not treat syphilis and would not be indicated.
(Choice 3) is often used in pregnancy to treat urinary tract infections. However, it does not treat syphilis and therefore would not be indicated for the patient.
(Choice 5) should not be used in pregnancy as it is known to cause discoloration of deciduous teethes, and it can be deposited into fetal long bones. It is considered a second-line treatment of syphilis in the nonpregnant patient.

241. Question **1 points**

Category: Obstetrics & Gynaecology

An otherwise healthy, 65-year-oldwoman comes to the physician because of bloody discharge from the right nipple for 2 weeks. On examination, no retraction, erosion, or other abnormal change is present. Palpation reveals an ill-defined, l-cm nodule located deep in the right areola. Which of the following is the most appropriate next step in diagnosis?

1. Cytologic examination of nipple discharge
2. Mammography alone
3. Ultrasonography
4. Biopsy under mammographic localization
5. Mammography followed by fine-needle cytology

INCORRECT

The correct answer is 5.

Nipple discharge in the non lactating breast may be the presenting sign of a number of diseases, the most common of which are intraductal papilloma, carcinoma, and fibrocystic changes. Carcinoma is more likely in women older than 50. Regardless of whether this sign

is present, a clinically malignant palpable mass in a postmenopausal woman should be investigated with mammography followed by fine-needle cytology (or excisional biopsy). The features suspicious for malignancy in this case include ill-defined margins of the mass and the hemorrhagic nature of the discharge.
(Choice 1) Cytologic examination of nipple discharge may reveal malignant cells but is associated too frequently with false negative results to be reliable.
(Choice 2) Mammography alone is adequate if the breast mass appears benign on clinical grounds. Biopsy or fine-needle aspiration may then be carried out depending on the mammographic findings.
(Choice 3) is mainly used to differentiate between solid and cystic masses. However, it does not allow any inference on the malignant versus benign nature of a lesion. If a lesion is cystic, the fluid should be aspirated and examined cytologically.
(Choice 4) Biopsy under mammographic localization, i.e., a “stereotactic” biopsy is not necessary in this case because the lesion is palpable and can be easily sampled by fine-needle aspiration or conventional biopsy.

242. Question **1 points**

Category: Obstetrics & Gynaecology

A 25-year-old primigrdavid woman at 37 weeks gestation is brought to the emergency department because of severe uterine contractions and moderate vaginal bleeding. She has been followed for pre-eclampsia since her 32nd week of gestation. She is currently having intermittent bleeding. Ultrasonogram in the emergency department shows placental abruption and an intrauterine gestation consistent with dates. Placenta previa is ruled out Her temperature is 37.0 °C (98.7 °F), blood pressure is 90/60 mmHg, pulse is 99/min and respirations are 20/min. Physical examination shows uterine tenderness and hyperactivity, increased uterine tone and vaginal bleeding. Her cervix is 1 cm dilated and 10% effaced at the time of admission. Feta l heart tracing shows a rate of 110/min, a long-term variability of 4 cycles/min and a beat-to-beat variability of 20/min. Which of the following is the most appropriate next step in management?

1. Induction of labor
2. Emergency cesarean section
3. Scheduled cesarean section within next 48 hours
4. Tocolysis to prevent the abruption from evolving
5. Conservative management in hospital

INCORRECT

The correct answer is 2.

The patient described has a placental abruption documented by ultrasonography. This patient is unstable based on her soft blood pressure, near tachycardia, and continued bleeding; also, vaginal delivery is not imminent as the cervix is only 1 cm dilated and 10% effaced. In such cases, an immediate caesarian section delivery is indicated to stop the abruption from progressing and to avoid serious complications such as hemorrhage, DIC, and maternal or fetal demise.

(Choice 1) The patient is unstable and the fetal heart tracing is alarming, so the placenta must be removed promptly by the most expedient means possible – an emergency cesarean section. Inducing labor and opting for vaginal delivery may be used in cases where labor is in an advanced stage.

(Choice 3) Cesarean delivery in this case must be immediate in order to remove the placenta and associated clot thus preventing fetal and maternal complications.

(Choice 4) Tocolysis will not keep the abruption from evolving. The mother and fetus are in danger and delivery is the only viable treatment option in the setting of placental abruption.

(Choice 5) Conservative management in the hospital is rarely a choice in placental abruption. It can be carefully considered in cases of very mild and stable abruption, when the pregnancy is remote from term.

TOP (https://www.amcquestionbank.com/quizzes/obstetrics-gynecology/#top)